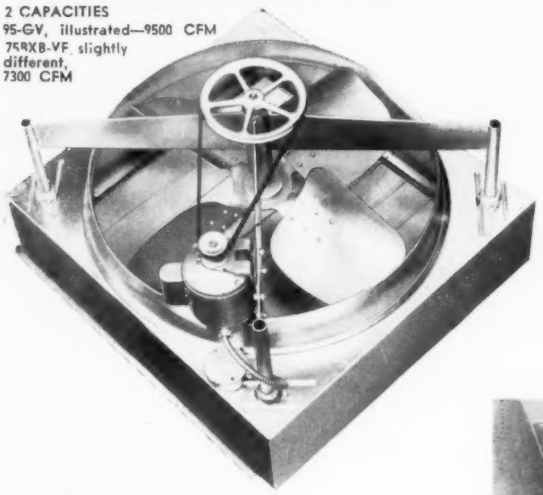
ELECTRICAL SOUTH

JUNE, 1949

Contents, Page 21 APPLIANCE SECTION • PAGE 57 Adv. Index, Pages 88 and 90

2 CAPACITIES
95-GV, illustrated—9500 CFM
75RXB-VF, slightly different, 7300 CFM



It's a package
A compact, complete home-cooling system. Built-in shutter and switch. No accessories needed.

Easy, low-cost installation
No suction-box to build. Only a simple ceiling opening and attic exhaust vent needed.

You sell cool comfort
Quiet, dependable operation. Fan guaranteed 5 years; motor and shutter, 1 year.

Sales-making Hunter display
Customers operate, see, feel and sell themselves. Attractive, safe, easily assembled display.

HUNTER
Package ATTIC FANS

HUNTER FAN & VENTILATING COMPANY, INC.

392 South Front Street, Memphis, Tennessee

Exclusive Fan Makers Since 1886

the NEW Trend in lighting!

LOUVERALL LIGHTING WITH LUMINOUS VINYLITE LOUVERS CREATES A NEW EXPERIENCE IN SEEING!

The trend not only is unmistakably to louvered ceilings of light . . . but to ceilings with LUMINOUS LOUVERS!

When you experience the lighting effect achieved with luminous louvers it's not hard to understand why those who *see* it, so overwhelmingly *prefer* it!

The secret of "Sky-Glo's" superiority is in its exclusive Vinylite (plastic) louvers which not only reflect light but also transmit light.* Thus "Sky-Glo" provides a translucent ceiling that not only affords a means of obtaining more light without annoying glare but actually offers a new experience in seeing!

"Sky-Glo" makes possible these high levels of illumination (in range of 50 to 150 footcandles) with exceptional low brightness (less than 1 footcandle per sq. in.). The result: a soft glareless illumination that makes seeing easy; that creates a restful yet stimulating atmosphere; that makes one completely unaware, visually and psychologically, of the high levels of illumination that are responsible for this "new experience in seeing."

Translucent "Sky-Glo" louvers heighten the beauty of the ceiling and add a scintillating and harmonizing note to the entire decorative scheme. Add to these exclusive advantages of "Sky-Glo" all of the many conventional advantages of the louverall lighting system and you can see why the new trend in lighting is so definitely to Benjamin "Sky-Glo."

BENJAMIN ELECTRIC MFG. CO., Dept. Z-1, Des Plaines, Illinois

*Reflection Factor is 19%.
Transmission Factor is 71%.

Broadway Florist Shop, 218 W. Fifth St., Los Angeles, Calif.; *Sales Area For Florist Shop. Peter Telegin, Consulting Engineer with Basso and Riddel, General Contractor, Keith Electric Co., Electrical Contractor.*

Victor Adding Machine Company, 3900 N. Rockwell St., Chicago, Ill.; *Private Office. Olsen and Urbain, Architects; Chicago; Neiler, Rick, Bladen, Consulting Engineers; Henry Erickson, Chicago, General Contractor; Hoffman Electric Co., Chicago, Electrical Contractor.*

Stetson Shoe Store, Pittsburgh, Pa.; *Shoe Store Sales Area. John Schurke, Pittsburgh, Designer; Wood Electric Construction Co., Pittsburgh, Electrical Contractor.*

"Sky-Glo" Lighting Manual Available FREE to Illuminating Engineers

For complete story and data on one of the most significant developments in fluorescent lighting history in terms of lighting performance, applications, modernization and maintenance, write for your complimentary copy of Bulletin "SG."

BENJAMIN TRADE MARK

"Sky-Glo"

R 31242

LUMINOUS LOUVERED LIGHTING SYSTEM

Distributed Exclusively Through Electrical Wholesalers

ELECTRICAL SOUTH is published monthly by W. R. C. Smith Publishing Co., Marietta, Ga., and Atlanta, Ga., U. S. A.
Subscription rates, United States and Possessions, $1.00 for one year; Canada and Foreign Countries, $10.00 per year.
Entered as second class matter at the Post Office, Marietta, Ga., under Act of March 3, 1879.
Volume 29 Number 6

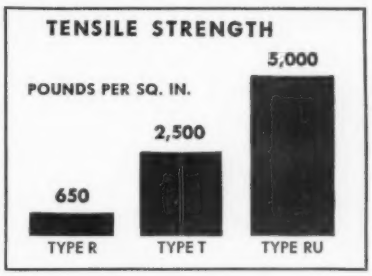
"HE PUTS 2 WIRES IN FOR EVERY 1 HE TAKES OUT...WITH Laytex® RU!"

Laytex permits more wires per conduit because it is America's smallest diameter, lightest weight, natural rubber covered branch circuit wire. U. S. Rubber Company's unique dip method applies 90% pure rubber to the conductors, eliminating the usual bulkiness and weight. Electricians on rewiring jobs will tell you that they can put eleven No. 14 Laytex Type RU wires into a conduit that holds only six No. 14 Type R wires. Moreover, they can use the same conduit—no need to rip it out.

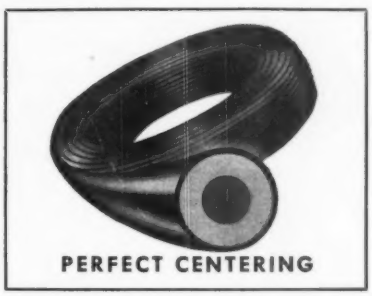
Laytex RU is easier to pull through the conduit, because of a special wax finish. In a laboratory test, only 22 to 26 pounds pull was needed to draw Laytex through the conduit—as compared with 32, 30, 42, 45, and 80 pounds, respectively, for 5 other leading brands. That means Laytex is 33% to 300% easier to pull.

Six No. 14 Type R wires fit in ordinary conduit
Eleven No. 14 Laytex Type RU wires fit in same size conduit (Rewiring only)
MORE WIRES PER CONDUIT

Special tests by laboratory technicians reveal that Laytex RU insulation has a tensile strength of over 5000 pounds per square inch. This is because the insulation is made of 90% pure rubber, unmilled in order to preserve its high physical qualities.



Because the conductor leaves the liquid Laytex compound in a vertical direction, layers of Laytex of uniform thickness are formed around the conductor. This gives a wire that is perfectly centered and contains no thin spots.



Write for sample and booklet to Electrical Wire and Cable Department, United States Rubber Company, 1230 Avenue of the Americas. New York 20, N. Y.

A PRODUCT OF

U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

RU wiring with **RU?**

America Needs '49ers

JUST a hundred years ago, the Forty-niners stormed the gold fields of California. They faced staggering obstacles, sure hardship, uncertain reward. Thousands failed, thousands of others realized modest gain, a few made fortunes. None sought or received help or direction from a benevolent government.

Now a century later, America faces another age of golden opportunity--an era when science and industry reveal new treasure to be had for the making. Turning today's visions into reality calls for '49ers--men of purpose and resolution, courage and independent spirit. You as a leader in your community may find a personal challenge and an inspiration in the Old '49er. By example and precept, you can help America toward her greatest accomplishments--in prosperity and peace.

The Youngstown Sheet and Tube Company

General Offices--Youngstown 1, Ohio
Export Offices--500 Fifth Avenue, New York

MANUFACTURERS OF CARBON, ALLOY AND YOLOY STEELS

ELECTROLYTIC TIN PLATE - COKE TIN PLATE - WIRE - COLD FINISHED CARBON AND ALLOY BARS - PIPE AND TUBULAR PRODUCTS - CONDUIT - RODS - SHEETS - PLATES - BARS - RAILROAD TRACK SPIKES.

HERE'S A TYPICAL TEST
ONE OF 486
THAT WESTINGHOUSE FLUORESCENT LAMPS PASS
A phosphor crystal functions at top efficiency in a fluorescent lamp when its atoms are united in a definite pattern. Here a Westinghouse scientist tests mixtures of new phosphors in the Research Laboratory at Bloomfield, New Jersey.
That's Why Westinghouse Fluorescent Lamps
WORK SO WELL
BURN SO BRIGHT
LAST SO LONG
WESTINGHOUSE
YOU CAN BE SURE...IF IT'S
Westinghouse
THE NAME YOU KNOW IN Lamps

Get CORRECT CONDUIT CONNECTIONS

The easy economical way

Cross Section Showing Indentations

Select the best, insist on Briegel All Steel Fittings, the original approved Indenter type connectors and couplings for thin wall conduit tubing. You will not only find that Briegel Indenter Fittings are easier and faster to use, but also make neater, stronger connections, the correct connections. Two Easy Squeezes and they're set. Start using Briegel Fittings today. Have more satisfied customers—more profits from each job.

DISTRIBUTED BY

The M. B. Austin Co., Northbrook, Ill.; Clayton Mark & Co., Evanston, Ill.; Clifton Conduit Co., Jersey City, N. J.; General Electric Co., Bridgeport, Conn.; The Steelduct Co., Youngstown, Ohio; Enameled Metals, Pittsburgh, Penn.; Kondu Mfg. Co., Ltd., Preston, Ont.

• NEATER • STRONGER • FASTER • APPROVED

All B-M Fittings Carry the Underwriter's Seal of Approval and Canadian Standards Ass'n Approval No. 9296

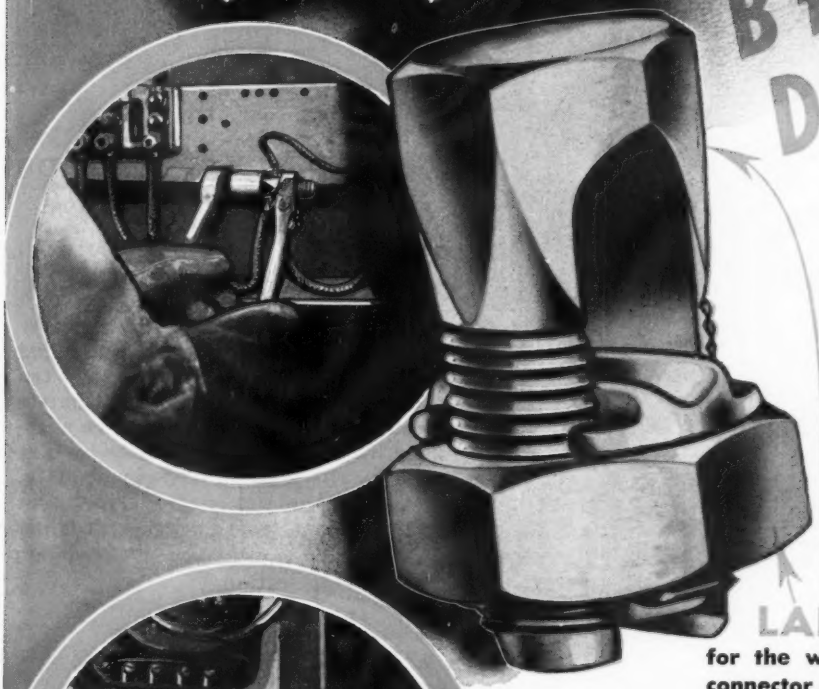
BRIEGEL METHOD TOOL CO.
GALVA, • ILLINOIS

Approved by **UNDERWRITERS LABORATORIES**

The men who USE them know the difference!

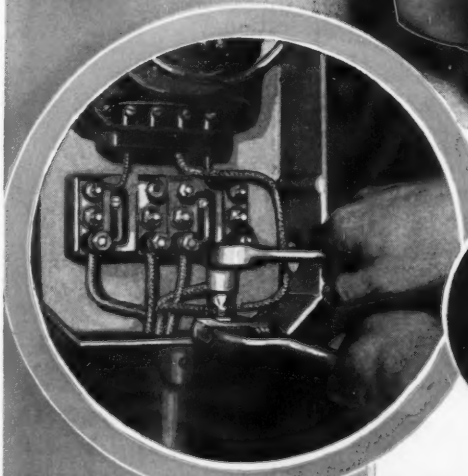
they like this—

BETTER DESIGN



If you have ever spliced wires and cables in real mean locations, you probably are a strong "booster" for Penn-Union Connectors - - -

Because you know how much easier they are to use in close quarters: Working up against a wall...squeezing into small boxes, to join short ends of stiff wire . . . reaching around pipes, and splicing wires in dark holes where you can hardly see.



Far More in use than any other

LARGER SURFACES

for the wrenches make the Penn-Union connector more practical—you grip it from ANY angle, with ANY kind of wrench (box, socket or open-end). Developed by 20 years of constant improvement. Accurately made, with rigid engineering inspection. Reusable over and over. Can be furnished in Bronze or Aluminum.

PENN-UNION ELECTRIC CORP., Erie, Pa.

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The Complete Line of Conductor Fittings

PENN-UNION

SIMPLEX - ANHYDREX CABLES STAY ON THE JOB IN WET LOCATIONS

HERE'S PROOF

IN TEST FIGURES

Continuous testing to rigid standards proves without doubt that Anhydrex insulation will not absorb more than 20 mg. of water per square inch of exposed surface. Rarely does the figure climb that high. After one day's immersion in water at 70°C. (158°F.) Anhydrex has a dielectric constant that will not exceed 3.2. Its increase in capacitance between one and eight days' immersion at 70°C. will not exceed 3.5% for insulation thicknesses greater than 4/64", or 5% for thicknesses of 4 64" and less.

IN SERVICE RECORDS

Reports from the field, which indicate that no ANYDREX Cable has ever failed due to water absorption, include this account: An eastern city known for its bad water conditions installed nearly 10,000 ft. of ANHYDREX Cable in its municipal signal and communications systems. During ten years' service the cables had no trouble whatsoever, although ducts and manholes there are nearly always full of water and metallic cables used in the same installations had proved inadequate. ANHYDREX Cable that was buried directly in the ground came through with the same trouble-free service, and portions of cables exposed above earth suffered no deterioration.

Neoprene-jacketed ANHYDREX Cables need no additional coverings. They cut down weight, diameter and cost. You can use them underground, overhead, or in ducts without fear of water and moisture, soil acids and alkalies, heat and weathering. Specify them with confidence for transmission and distribution systems, signal and communication circuits, street, airport and park lighting.

SIMPLEX-ANHYDREX

SIMPLEX WIRE & CABLE CO., 79 SIDNEY ST., CAMBRIDGE 39, MASS.

Pick Materials Today

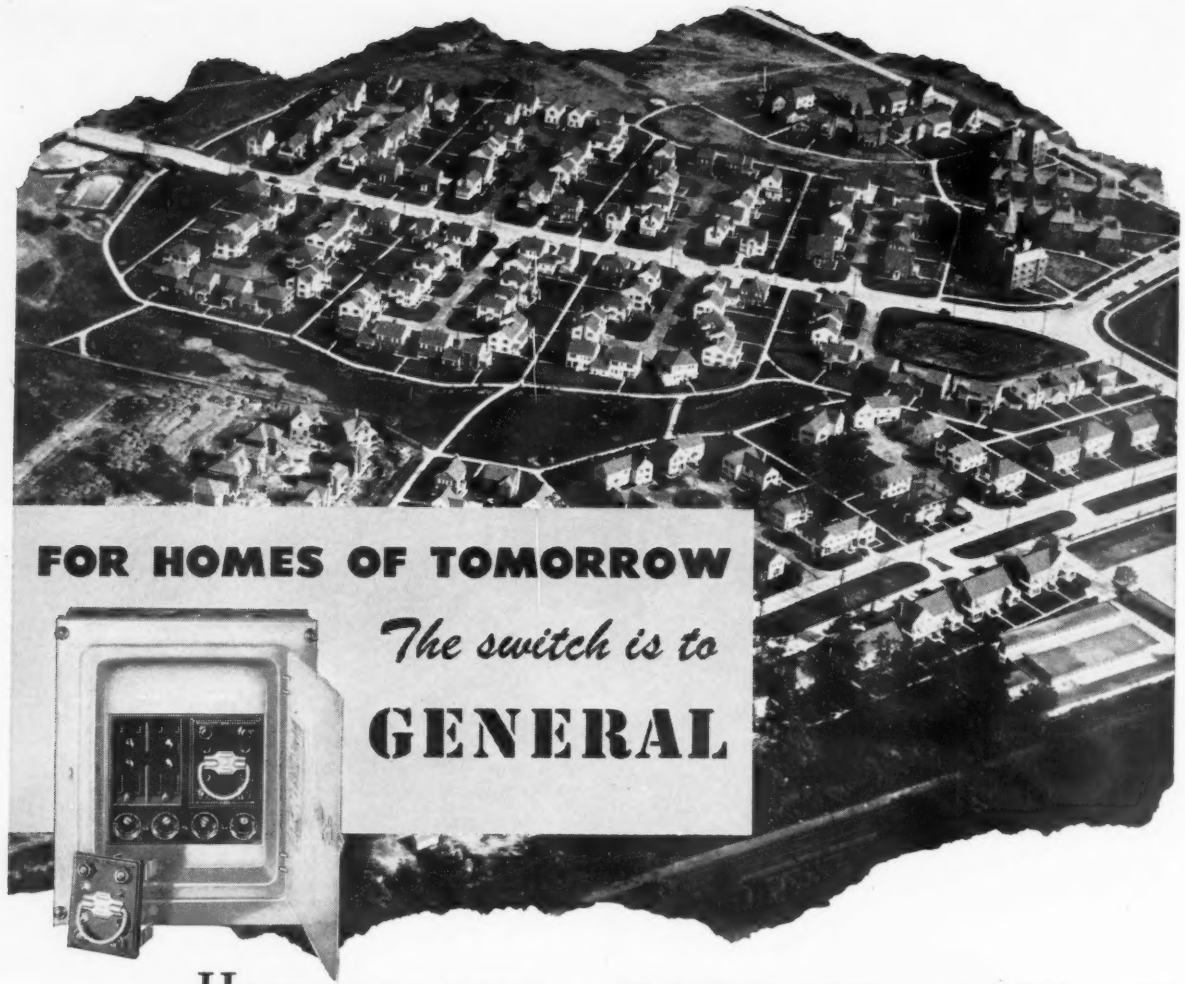
—that will remain a credit to your judgment in 20 years

The high quality of OLIVER Pole Line Materials is demonstrated in the length of service they provide. Because OLIVER products are properly designed, made from the best materials, and thoroughly protected against corrosion and weathering, they give the extra service that means long-range economy.

Specify OLIVER Pole Line Materials for greatest satisfaction—now and for life. You will never regret your choice!

OLIVER
IRON AND STEEL
CORPORATION

South Tenth and Muriel Sts. Pittsburgh 3, Pennsylvania



FOR HOMES OF TOMORROW

The switch is to

GENERAL

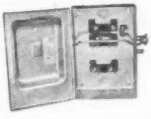
HOMES of tomorrow demand the best of today! That's why more and more electrical contractors—builders—architects—and wholesalers are switching to GENERAL!

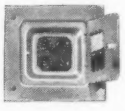
GENERAL SWITCH CORP. specializes in the construction of Safety Switches, Service Entrance Equipment, Branch-Circuit or Residence Panels, Panelboards for Light and Power Distribution . . . for luxury type and low-cost housing projects. Safety Switches available from 30 through 1200 AMP.—250 V. and 600 V.—Type A, C and D—indoor and outdoor—horsepower rated.

Wherever quality—safety—convenience—endurance—trouble-free performance—ease of installation—and low maintenance costs are the first consideration, *the switch is to* GENERAL!

GENERAL MAIN AND RANGE COMBINATION. (Cat. No. 6214, surface or flush.) The most economical switch for range installations. Double pullout switch with one 60 AMP main and one 60 AMP range switch in series (also parallel). 4 lighting circuits (6 and 8 also available). Has 60 AMP sub-feed pressure wire connectors for water heater or other 220 V. circuits.

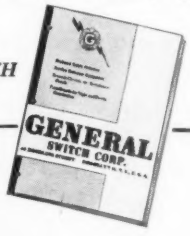
GENERAL EXTERNALLY OPERATED SAFETY SWITCH. (Cat. No. 1003N.) 100 AMP., 3 pole, 2 fuse switch with solid neutral. Knife blade construction. Plastic composition base. Quick-Break. Ample space for wiring.





GENERAL PLUG FUSE BRANCH-CIRCUIT or RESIDENCE PANEL. (Cat. No. 104, surface or flush.) Available up to 32 circuits. Flush spring catch.

Ask your wholesaler or write today for the GENERAL SWITCH 68-page catalog.

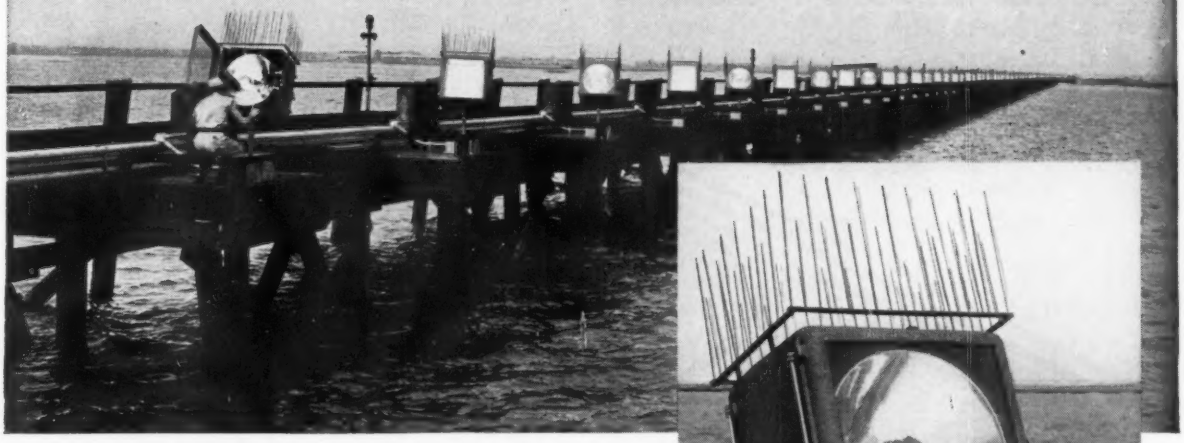


Distributed through wholesalers

GENERAL SWITCH CORP.

49 ROEBLING STREET, BROOKLYN 11, N. Y. • *Sales Offices in every major city*

GREATER SAFETY AND FLIGHT REGULARITY AT IDLEWILD....



....with 3 Billion Candle Power "ALL WEATHER GUIDE LIGHTS" powered through HAZARD'S KEYSTONE-HAZAPRENE CABLE

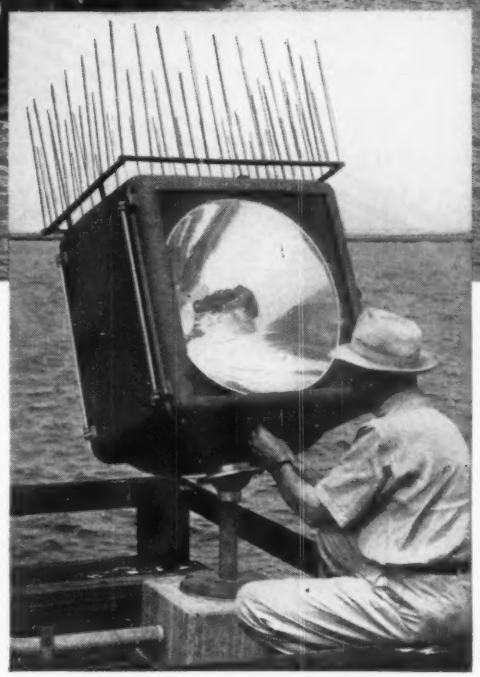
Of the many important electrical advances made in airport lighting, power transmission and flight control at the New York International Airport, one of the most interesting is the "All Weather Guide Lights."

Designed to provide pilots with reliable visual guidance in adverse flying conditions, these high intensity approach and contact lights consist of 35 Blaze Units, 35 Flash Units — all controllable from the operational tower.

One of the insulated wire and cable requirements at Idlewild served by Hazard is the power supply to these vital lighting aids, and here Keystone-Hazaprene Cable is used.

For high voltage circuits, Hazard's Keystone insulation effectively combines in one oil base compound unusual resistance to ozone, heat, moisture, sunlight, chemicals and acids. Protected with a Hazaprene sheath (a Hazard-developed neoprene compound) — Keystone-Hazaprene Cable assures the long-lived, trouble-free service required from these lighting circuits.

In planning electrical wire and cable needs for modern airports, you'll find Hazard's engineering experience, outstanding insulations, and protective coverings will help you obtain the right answer to your particular operating conditions. For example, over twenty years field service under severe operating conditions has proved Hazasheath and Armortite Cable ideal for trouble-free, long-lived power transmission, communication and control circuits. Non-metallic sheathed, these cables are light-weight, quick and easy to install . . . are buried direct or run in conduits. Whatever your need, you can rely on Hazard Insulated Wires and Cables for long, continuous, safe, trouble-free service. Our engineering service is available without obligation. Hazard Insulated Wire Works, Division of The Okonite Company, Wilkes-Barre, Pa.



High Intensity, Controllable, All Weather Guide Lights at New York International Airport, Idlewild, N. Y., installed by Hoffman and Elias. Flash and Blaze units alternate, with the Flash Units capable of developing 3 billion candlepower to assure pilots of visual contact with field through poorest weather conditions. Wire "feelers" on top of each light discourage seagulls from landing.

KEYSTONE-HAZAPRENE

ARMORTITE

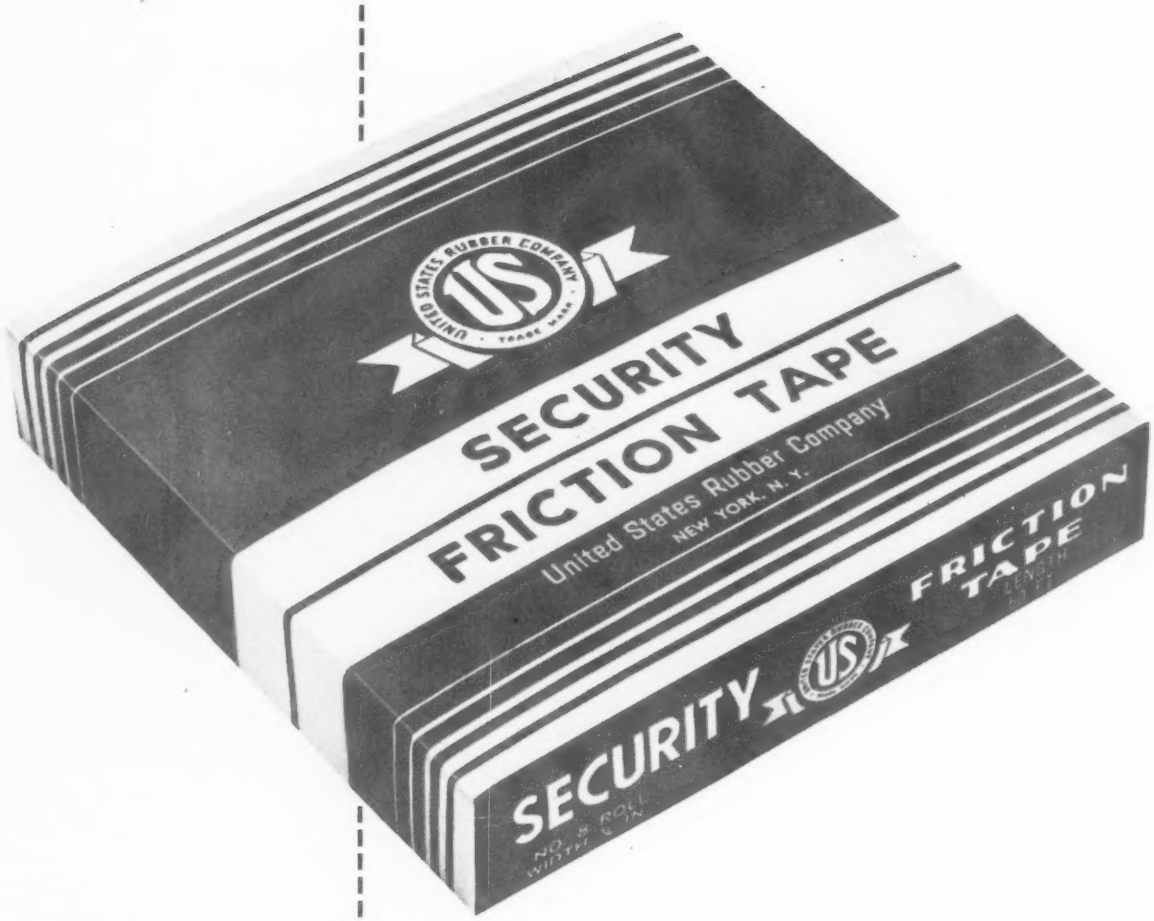
HAZASHEATH

HAZARD

5883

insulated wires and cables for every electrical use

A SAFE AND STEADY SELLER



"SECURITY"—THE FRICTION TAPE MADE BY

Instinctively—electrical contractors reach out for things they know and trust.

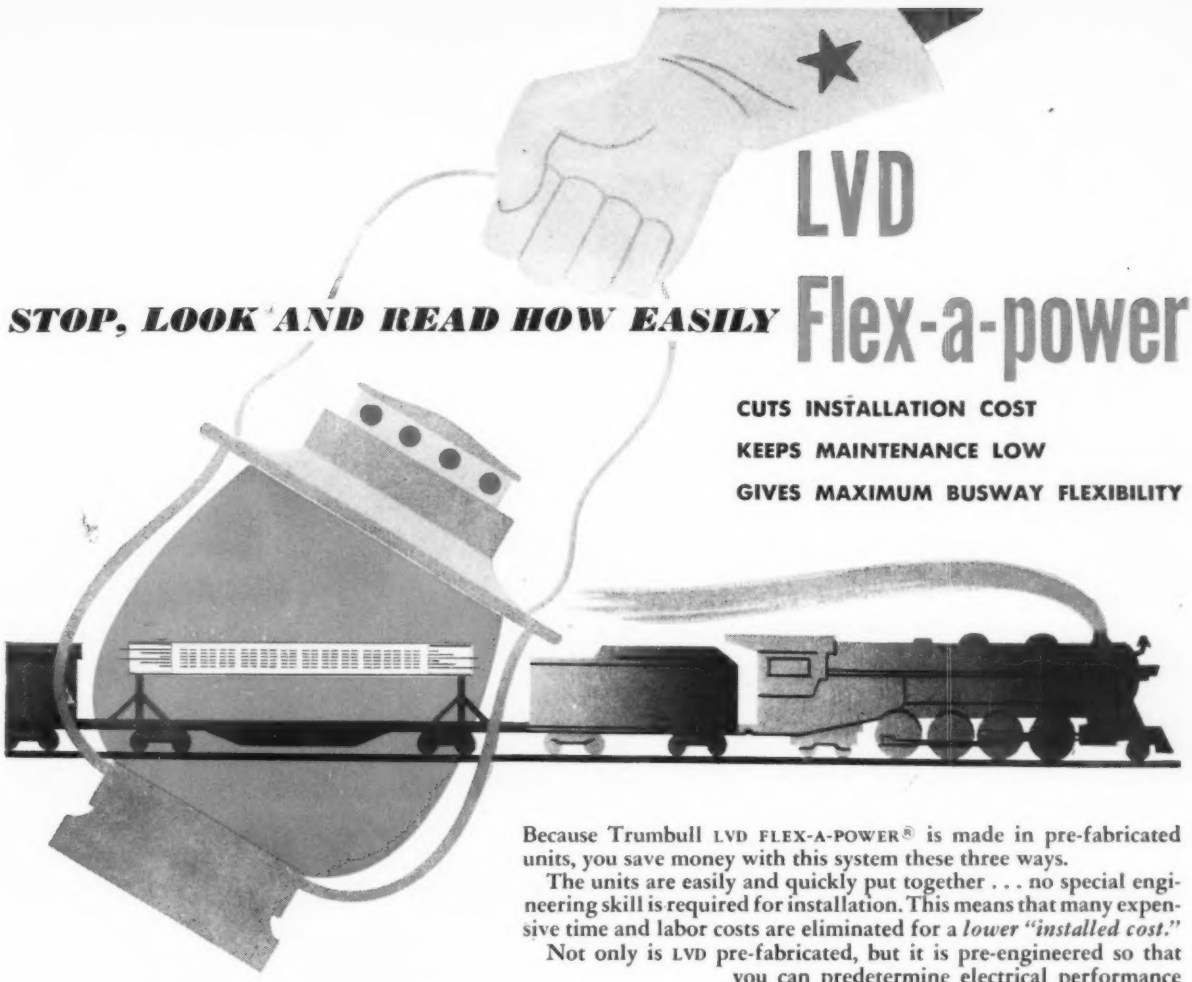
They trust "Security" because they *know* it stands up in service. It has high tensile strength. It is free of pin holes. It does not unravel when unwound from the roll. It tears straight. And it has a strong, rubbery adhesive that sticks and *holds.*

Is your stock of Security adequate?

U.S.RUBBER
SERVING THROUGH SCIENCE

TAPE DEPARTMENT
U. S. RUBBER BLDG., ROCKEFELLER CENTER, NEW YORK 20, N. Y.

UNITED STATES
RUBBER COMPANY



STOP, LOOK AND READ HOW EASILY **LVD Flex-a-power**

CUTS INSTALLATION COST

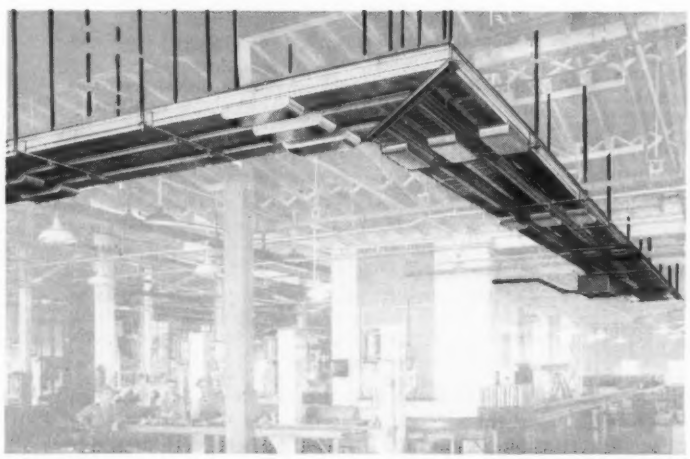
KEEPS MAINTENANCE LOW

GIVES MAXIMUM BUSWAY FLEXIBILITY

Because Trumbull LVD FLEX-A-POWER® is made in pre-fabricated units, you save money with this system these three ways.

The units are easily and quickly put together . . . no special engineering skill is required for installation. This means that many expensive time and labor costs are eliminated for a *lower "installed cost."*

Not only is LVD pre-fabricated, but it is pre-engineered so that you can predetermine electrical performance before actual installation. This advantage is an important factor in minimizing voltage drop and in keeping machine efficiency high.



LONG-LIVED MATERIALS —

Another advantage — LVD FLEX-A-POWER materials do not deteriorate even under the most severe operating conditions, thus assuring years of satisfactory service *without costly maintenance repairs.*

ADAPTABLE, "TAKE-APARTABLE" —

LVD FLEX-A-POWER is readily adaptable to any power distribution problem you may have. Fast to install, its convenient "take-apart-ability" allows you to relocate your LVD system without replacing a single part!

Learn more about the many advantages of LVD. Write for Circular TEC 152 today. THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, Plainville, Conn.

Men Who Observe the Best Electrical Practice Make It a Practice to Use

TRUMBULL (T) ELECTRIC

TRUMBULL'S TRAINLOAD OF NEW PRODUCTS

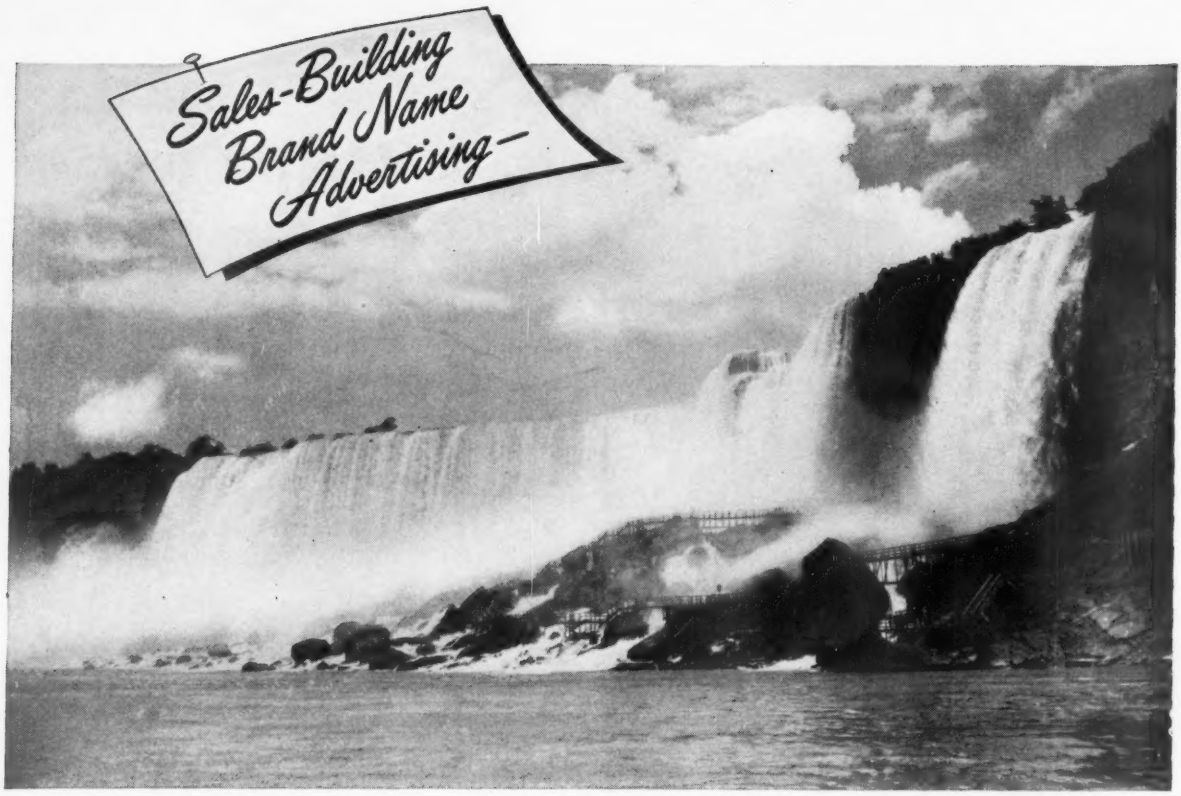


Photo by Ewing Galloway

Are you letting this power flow over the dam?

Every year American manufacturers of brand name goods back up their products with a powerful stream of advertising messages.

This advertising goes into magazines, newspapers, outdoor boards, transit space and radio and is read and listened to in every city and hamlet in the nation . . . creating immeasurable buying interests and desires.

Some retailers are astute enough to harness this tremendous power to their own sales turbines by letting it be known that the advertised brands can be had at their stores.

But others let this power flow over the dam without hitching their turbines to this mighty cataract . . . and miss a big opportunity.

They overlook the fact that the brand tide is on the rise everywhere and that the unknown product is becoming increasingly difficult to sell. During the war the American people had sad experiences with substitutes. They want no more.

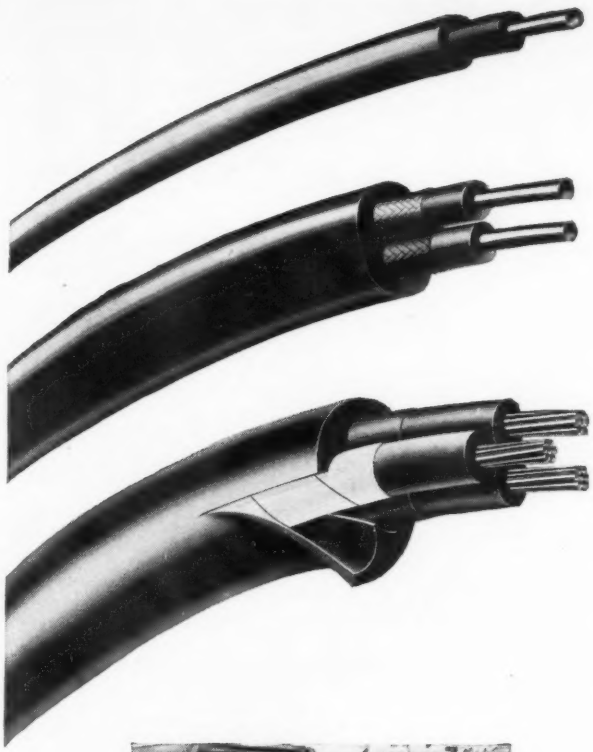
But in addition to the fact that name products by famous makers outsell "unknowns" nine times out of ten, brand lines have other healthy effects on your balance sheet. For example:

1. Pre-sold by maker's advertising, well-known brands require less sales effort in the store.
2. Repeat demand levels off inventories and results in fewer markdowns.
3. Manufacturers with investments in public good will are quick to make adjustments on unsatisfactory goods.
4. Famous brand names have more compelling display value in your windows, and bring people into your store.
5. Because honored brand names enjoy national prestige they supplement the merit of your own good name.
6. The manufacturer of widely advertised brands is equipped to assist you with nationally tested selling methods, developed through his nation-wide experience in many different localities.

Why let the store traffic that can be yours go down the street to other stores? Why waste the business building force of the advertising dynamo? Build a reputation as famous brand headquarters and ride the tide to greater volume.

Brand Names Foundation
INCORPORATED

A NON-PROFIT EDUCATIONAL FOUNDATION • 119 WEST 57th STREET, NEW YORK 19, N. Y.



Choose One Type of Power Cable... Use it Three Ways

Pick Durasheath for power distribution: small size or large . . . one, two or three conductors . . . to carry from 0 to 5,000 volts. Then use this type in any installation you like: buried directly in the ground . . . in conduit . . . suspended from poles . . . or in a run that includes all three. Following are some of the characteristics of Durasheath that give it this versatility:

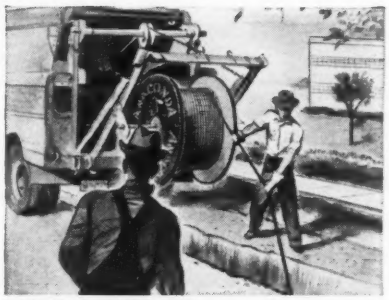
Durasheath is *unaffected by electrolysis*, corrosion and extremes in temperature.

High resistance to oil, flame, abrasion, cutting, impact and the moisture, acids and alkalies found in the soil.

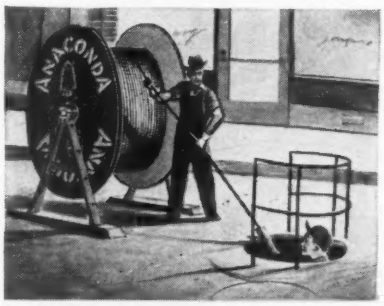
Light weight—greater strength.

More flexible, easier to handle.

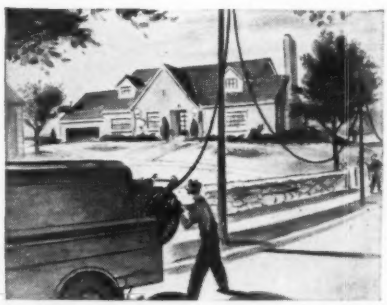
For power distribution between industrial plants, in street lighting systems, airports, mines, railroad signal systems, farm buildings and real estate developments—to mention a few—use Durasheath, the all-purpose cable. Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y. 49-121



UNDERGROUND. Toughness of neoprene jacket assures long life of Durasheath when installed directly in the ground.



IN DUCT. Moisture, oil, acid resistance of neoprene jacket make Durasheath an ideal cable for this application.



IN THE AIR. In single or multi conductors, Durasheath truly is a one-type cable for all-type use.

Anaconda **Durasheath**

ANACONDA
from mine to consumer

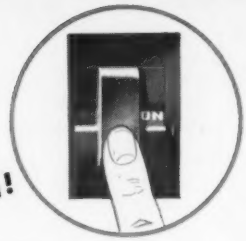
THE ALL-PURPOSE CABLE

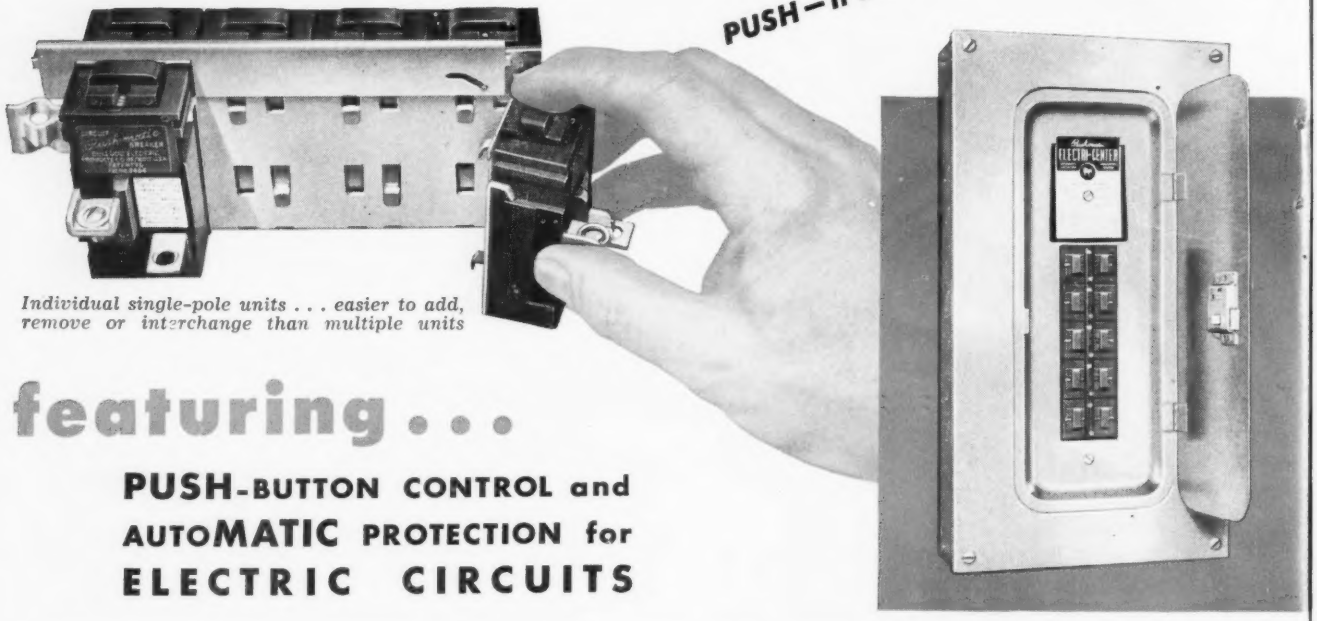
ANNOUNCING *Pushmatic*

PUSH—it's ON!

PUSH—it's OFF!

PUSH—it's ON again!





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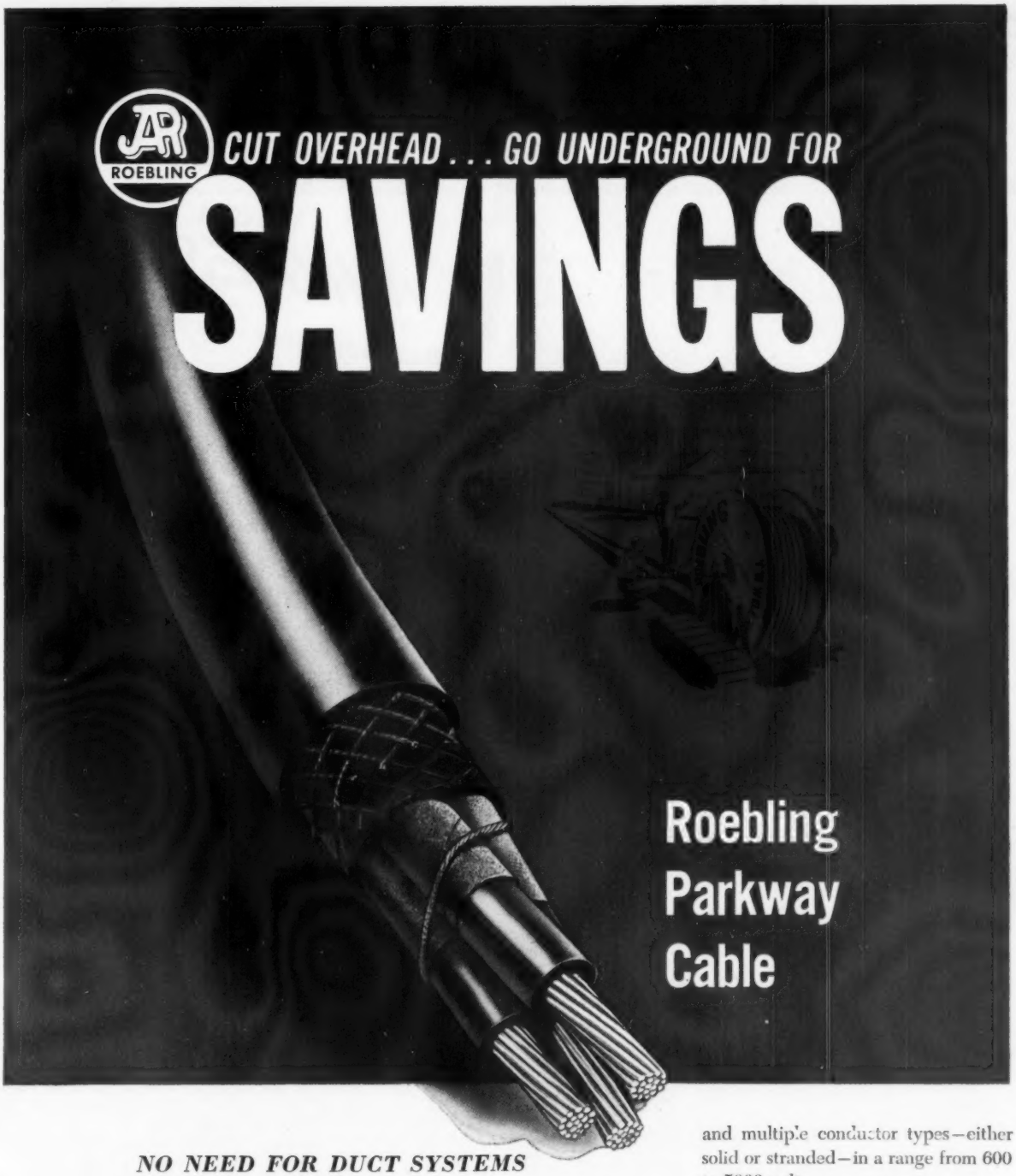

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>
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One sure fact stands out: the built-in thermal protection of "CSP" transformers cuts service costs. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

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G-E REMOTE CONTROL WIRING SYSTEM MAKES IMPORTANT CONSTRUCTION NEWS

Step-saving system of switches modernizes industry, farm, home

Compact Relays Simplify Wiring

Key to the General Electric remote control wiring system is the small relay that fits into a knockout in a standard outlet box. A twenty-five-volt circuit is used to energize the relay from a step-down transformer.

With the relay in place, leads can be run from it to many convenient switch locations. Small, neat-looking remote control switches can be placed practically anywhere, and can be easily connected to these leads.

Principal components of the General Electric remote control system are the transformer, lightweight Number 18 wire, remote control switches, and the relay. These units are all designed to fit in with standard wiring practices. In fact, the remote control system requires no change in power circuits.

Contractor, Architect Have Unlimited Scope

Working as a team, the electrical contractor and the architect can devise unlimited applications of the General Electric remote control wiring system.

Limited budgets as well as high-priced jobs, can well afford this practical, new system. Even for low-cost dwellings, the architect and contractor can use a few remote-control circuits which add another selling feature.

It will pay you to talk to your General Electric Construction Materials distributor about this new system right away.

Cuts Wasted Time in Plants, Farms

Industrial plants, commercial buildings, hospitals, and farms can do a man-sized job of cutting wasted time with the General Electric remote control wiring system.

The farmer can use this system to control lights and light-duty motors in outbuildings, right from the farmhouse or the barn. In industrial plants and commercial buildings, entire floors of lights can be controlled both from switches near the light fixtures and at convenient master control points.

Valuable working time can be saved by conveniently-located switches in the General Electric remote control wiring system.

In hospitals, General Electric remote control switches can be placed at each bed and at room entrances. Master control can be located in an office or hallway.

Because of the simplicity of this system (see story, Column 1)—because remote control switches and wire are small and trim the General Electric remote control wiring system makes neat surface-wiring installations in existing buildings. Surface installations of this kind can easily be relocated as the requirements change.

A single General Electric remote control switch, or a bank of remote control switches, can be located anywhere to give convenient control of appliances and lights.

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Dream-home lighting control—a practical, economical system that permits any number of switches to be placed practically anywhere in a home, for the ultimate in convenience! That's the promise of the General Electric remote control wiring system.

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Yard lights, cellar lights, attic fan, and any number of lights and small appliances can now be controlled from many locations—can even be wired to give full control from a favorite easy chair.

Permits "Pathway Lighting"

Another valuable convenience, now made economical and easy to install, is planned "pathway lighting."

Under the pathway lighting plan, the remote control system follows the traffic pattern of a home, with switches in all hallways and entranceways. Wiring for this plan can be arranged so that the householder can walk into a darkened house, turning on lights ahead of him, turning out the lights in rooms he has just passed through—without retracing his steps. Outdoor lights can be wired to give pathway lighting to house and grounds.

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GENERAL ELECTRIC

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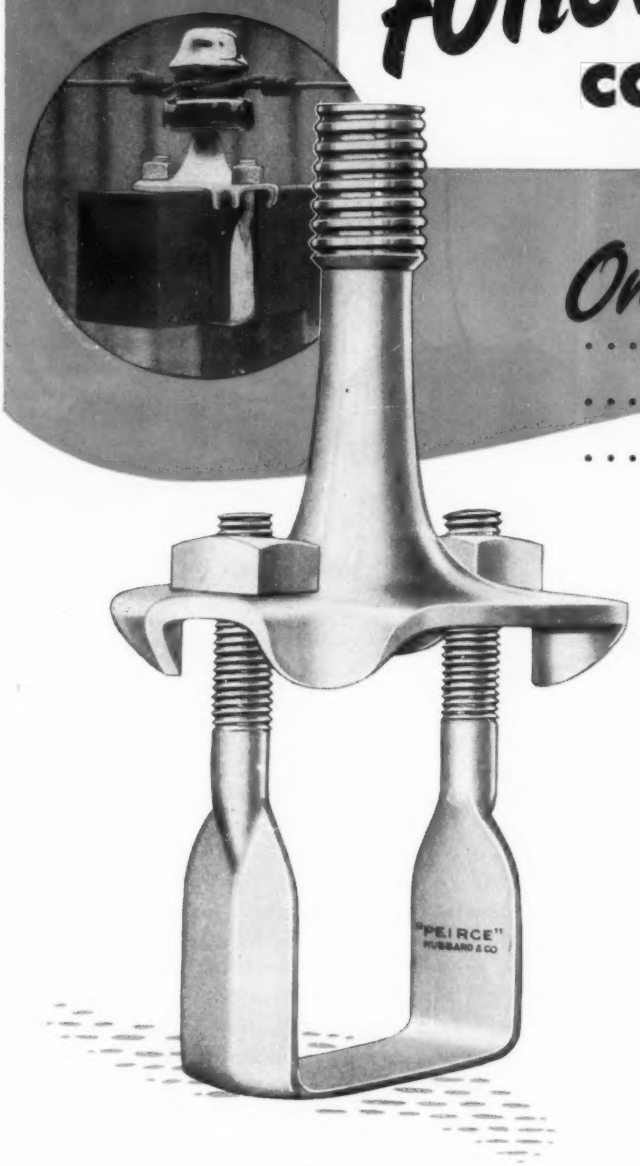
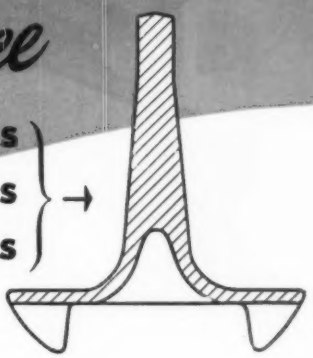


One Piece

. . . no seams
. . . no joints
. . . no welds



Hubbard Drop Forged Corner Pins are made from a single piece of steel, forged to a broad base which completely covers the top of the arm. There are no seams, joints or pockets to retain moisture and hasten corrosion.

Due to the one piece construction, maximum strength is retained for the weight of metal used, and radio interference is minimized. Structural strength is also enhanced by the method of attachment, as the strap illustrated binds the wood fibres of the arm in such a way as to prevent splitting.

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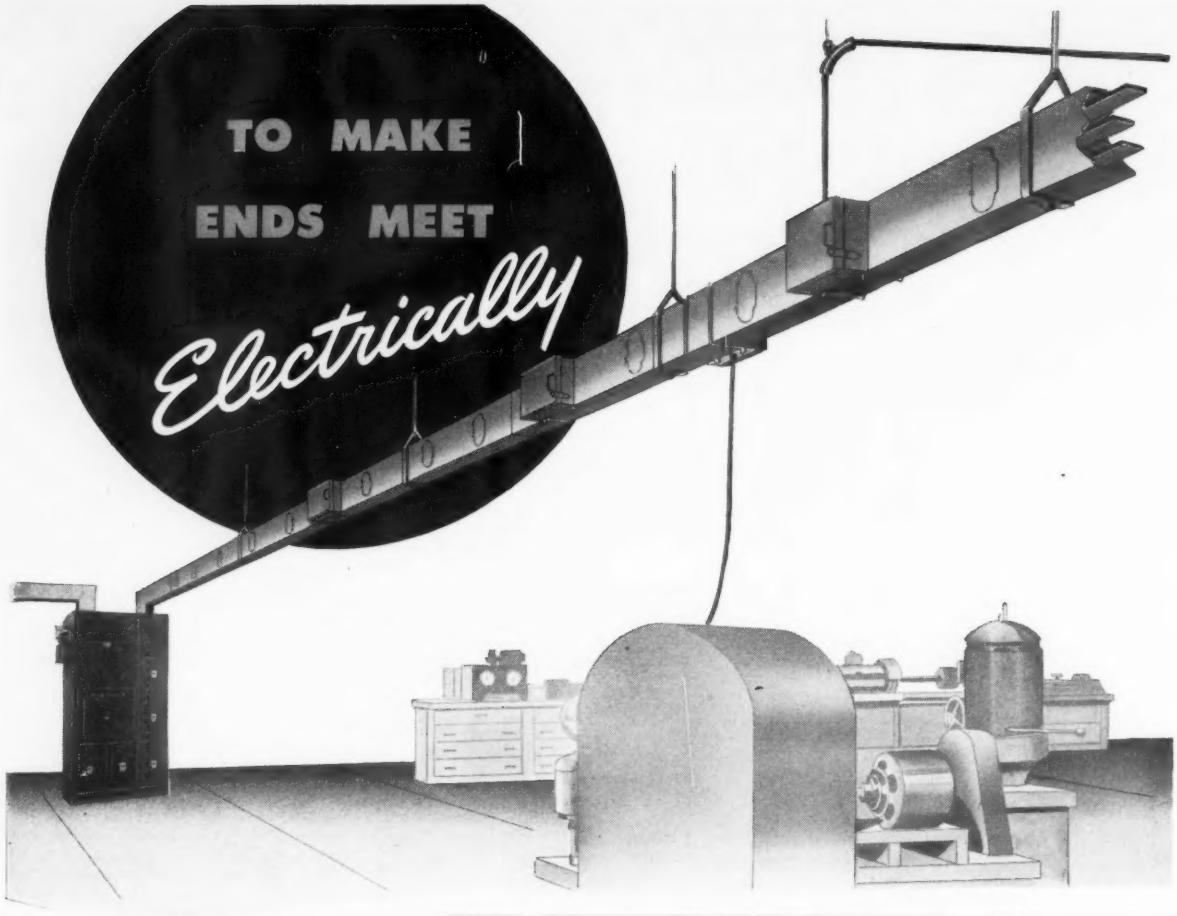
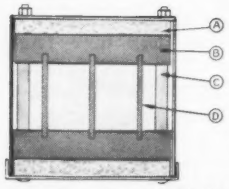
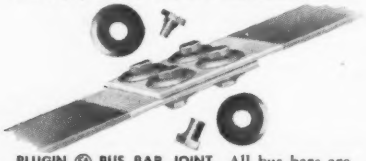




(A) Steel supporting channel; (B) Rugged porcelain insulators; (C) Fibre insulator spacers; (D) Copper bus bar conductors.



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Published Monthly by

W. R. C. SMITH PUBLISHING COMPANY

Atlanta and Marietta, Georgia

Editorial and Business Offices

806 Peachtree St., N. E., Atlanta 5, Ga.

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The COOLAIR EARLY BIRD HAS FLOWN...

But he sure gave many a Coolair Dealer a flying start in the 1949 Fan Season!

As welcome as the first robin of Spring to Authorized Coolair Dealers last February, the Early Bird Program has ended for this year.

However, the "Early Bird" lingered long enough to show these Coolair Dealers how to make some extra profits in their 1949 Fan business! And long enough for them to realize the value of their Coolair franchise!

There are many other reasons why Coolair dealers are happy these days . . . Coolair's wide-awake sales and merchandising program is backed by a thorough Dealer Training Program, good profit margins and the finest home cooling and commercial equipment they can offer their customers!

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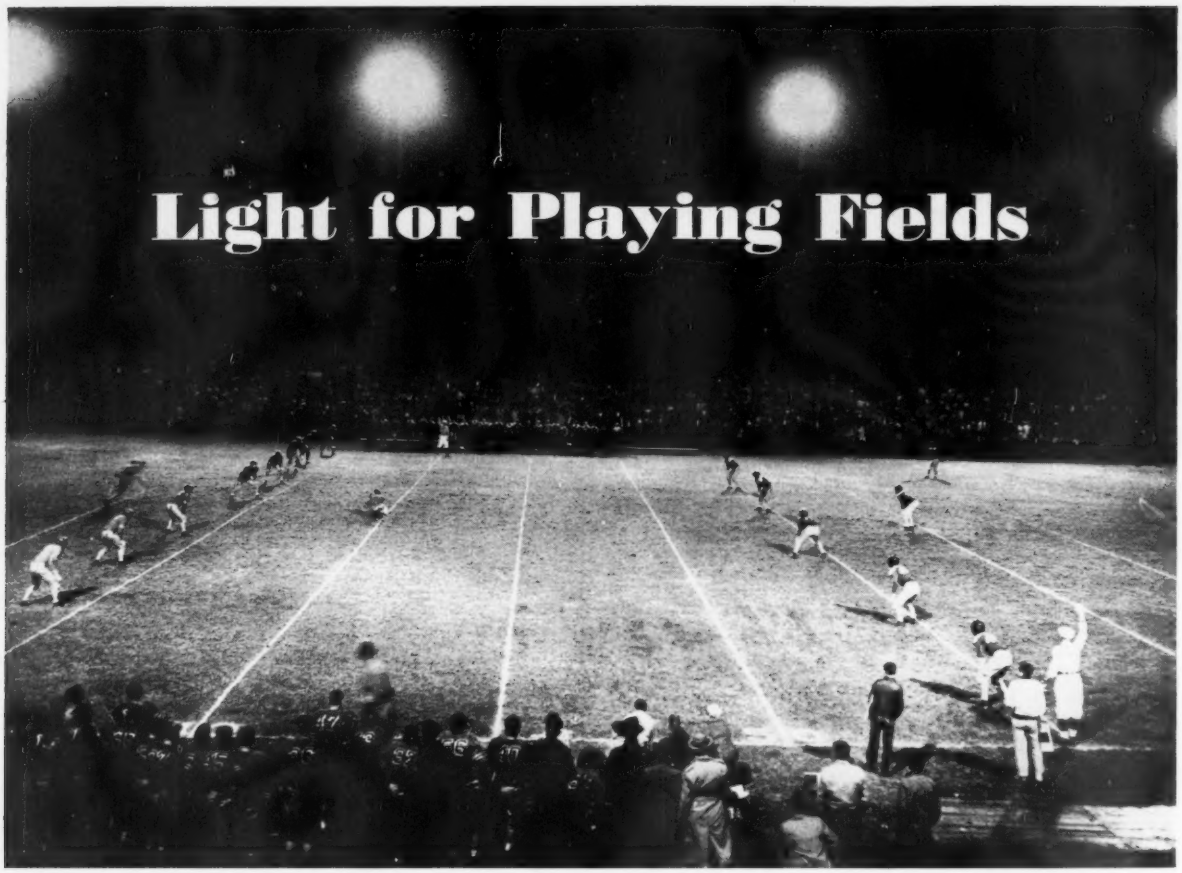
Light for Playing Fields



by Jerrell R. Powell

THE IMPORTANCE of adequate lighting of athletic fields is being recognized more and more, not only by athletic directors, power company officials, electrical contractors, and lighting engineers, but by the participants in, and the spectators of, the various sports which are being played at night.

Higher standards have been set up by such groups as the Illuminating Engineering Society and the National Electric Manufacturers Association which follow closely not only sound engineering approaches, but take into consideration the demands made by the players and the paying customers.

It would be difficult, indeed, to attempt to determine the number of people in the United States who attend night sports contests, and it would be literally impossible to anticipate the number of football, baseball, and other athletic fields which have been lighted and will be lighted in the near future. Not only are fields being lighted which formerly had no light, but in many instances stadiums are being enlarged, calling for a greater number and better quality floodlighting equipment. In other cases, public demand, coupled with the standards as mentioned previously, are causing schools and ball parks to expand their lighting facilities.

This article is not intended to present a history of sports lighting nor will it dwell at any great length on the future of this important phase of electrical work, but will merely point out generally accepted practices and standards of sports lighting, engineering, and installations, indicating some notable examples.

Once it has been decided that a floodlight installation is to be made, a problem which often presents itself is, what type of floodlights are best suited for the particular use at hand.

Of course, in large installations where the floodlights are to be mounted at a great distance from the playing field, there is no choice but to use a narrow beam unit.

However, in the everyday application of tennis court, softball field, and small football field lighting, a discussion will usually occur with regard to sheet aluminum floodlights with Alzak finish and the wide beam porcelain enamel type units. With hardly an exception the porcelain enamel unit for the same voltage will be less expensive, but the factor which is not taken into sufficient consideration is the fact that etched Alzak has a reflection factor in the neighborhood of 77 to 80 per cent, whereas the porcelain enamel factor is between 65 and 75 per cent.

This is evidenced by the recent standards of NEMA, which, for example, indicate that a softball field for semipro leagues with a 240-foot outfield should have 84 Alzak units

---

The author is an independent consulting electrical engineer. He designed lighting installations for the Cotton Bowl and the Dal Hi Stadiums in Dallas. He wishes to express appreciation for co-operation obtained in preparing this article from the following: Dallas Power & Light Co.; IES Handbook; John E. Metzenthin, sales engineer, Crouse-Hinds Co.; City Electric Co., and Albright Electric Co., contractors on the Cotton Bowl and Dal-Hi installations, respectively.

or 136 porcelain units to do the same lighting job. Based on typical costs, 84 Alzak units would probably cost slightly more than 136 porcelain units because for most manufacturers a ratio of about 1.7 exists between the cost of Alzak and porcelain floodlights. Yet when the cost of installation, wiring, transformer capacity and power consumption is considered, it is readily seen that the Alzak job is the more economical from the long range viewpoint. In addition, the Alzak unit provides a higher degree of light control which is always desirable in any floodlighting installation, as it helps to eliminate hot spots and unevenly illuminated areas.

A complete picture of the latest NEMA standards, which are set up in co-operation with the IES, will not be presented here because this information is readily obtainable elsewhere. Consulting engineers, light and power companies and representatives of the various floodlight manufacturers are always able to provide anyone interested with data in this respect.

There will be occasions when the recommendations cannot be followed particularly. For example, quite a few stadiums with seating capacities of less than 30,000 will have the floodlights mounted at a distance somewhat over 150 feet from the sidelines. One specific example of this situation is at the Dal-Hi Stadium, Dallas, Texas, one of the best lighting jobs on a large high school stadium in the South.

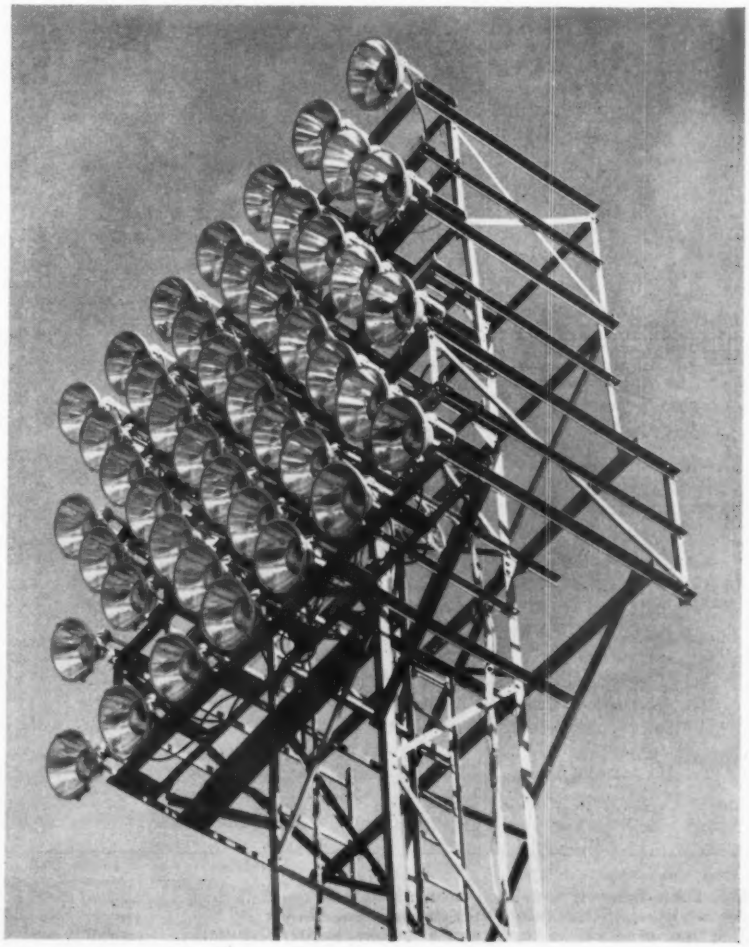
The original floodlights for the Dal-Hi Stadium were installed about 1938. This system provided only a minimum amount of lighting on the playing field, and while it served its purpose for several years, in 1948 it became necessary to improve the lighting by the addition of floodlights and by utilizing an accurate method of aiming the existing and the new floodlights. A survey of the old system revealed that the intensity of illumination ranged from 5 to about 10 foot-candles in an uneven distribution over the playing field. The field was first lighted by 84 1500-watt floodlight units mounted on six towers, three on each side of the field. The towers were provided with three cross arms, with 5 lights on the top, four on the center and 5 on the bottom.

Since the stadium enclosed a track as well as the football field the towers were found to be exceptionally far back from the side lines of the field. The line of towers on the West side was found to be 206 feet from the sideline and those on the East side 200 feet. The end towers were approximately 146 feet from the 50 yard line, and the top cross arm for all towers was approximately 135 feet above the playing field.

After a careful survey of the steel structure it was not considered advisable to put extensions on the towers which might create a top-heavy condition. Two additional crossarms were installed below those already in place, the fourth from the top mounting 7 lights, and number 5 mounting six light units. By bolting extensions on each side of cross arms numbers 2, 3, and 4, more units were installed, making a total of 17 new lighting units added to each tower. The 102 new floodlights are Crouse-Hinds Type MUA Alzak aluminum which have a 20-degree reflector factor and which are provided with a hinged door and clear lens.

The original lighting units were repaired and provided with new mounting heads which have degree markings on both horizontal and vertical quadrants. These devices made daylight aiming possible for old as well as new units. When all units had been properly lamped and aimed, a check of the illumination under aver-

Above: Close-up of one of the MUA floodlight units showing one of the quadrants which permit daylight aiming of the units. Below: One of the tower installations at the Cotton Bowl, in Dallas, Texas.



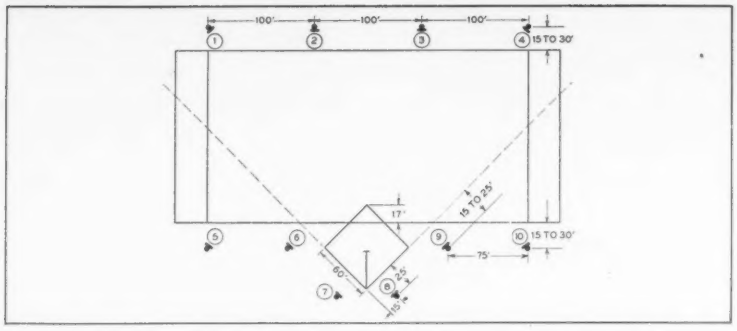


Fig. 1—This is a generally accepted recommendation for lighting a small combination football and softball field.

age atmospheric conditions showed from 33 to 35 foot-candles of intensity on the playing field. Of significance is the fact that it was unnecessary to make any night time adjustment of the floodlights after they had been aimed in accordance with the aiming chart which merely indicated the correct vertical and horizontal setting of each unit. This same method of focusing the individual units can be satisfactorily used on all floodlight jobs, if all poles or towers are vertical and all crossarms are level.

Quite often, particularly in installations for the smaller schools and colleges, it is desirable to combine a football and softball field. This may be due to lack of sufficient space to have both fields or it may be purely a matter of economy. A generally accepted recommendation for a combination job is indicated in Figure 1. However, it is frequently desired to use an existing football field for the playing of night time softball. With this in mind, and if bleachers are located on both sides of the field, it would be impossible to follow the recommended practices.

A suggested layout for this type of installation is indicated in Figure 2-A, and Figure 2-B shows the wiring, guying and circuiting layout. Switching arrangement is so designed that only a portion of the floodlights need be burned for any of three applications, namely, football, softball, and a practice session or scrimmage when only half of the field is to be used. Of course, this is in the interest of economy of power consumption. Wire size and switch ratings should be sufficient to allow for a future expansion of the lighting facilities.

General practice calls for the voltage at the lamp socket to be 10 per cent above the rated voltage of the lamp in the majority of sport lighting installations. This procedure will result in a 35 per cent increase in light output. Of course, the life of lamps will be shortened, and this must be taken into consideration for each individual job.

It is recommended that the above mentioned practice be followed if the lamps are operated for less than 200 hours a year; whereas, if they are operated for 200 to 1,000 hours per year they should be burned at 5 per cent overvoltage, and in cases of 1,000 hours or more operation, the lamps should be burned at rated voltages.

Because of the relatively high cost of replacing a single burned out lamp on a tower or pole, compared to the cost of replacing all the lamps on one tower at one time, many ball parks find it economical to replace all of their lamps once each year whether some of them are actually burned out or not. This will insure maximum efficiency of each unit and may actually cut down on maintenance cost during the season of play.

The lighting of the Cotton Bowl, in Dallas, has progressed right along with its physical expansion and increased prominence resulting from the New Year's Day football game. This game is well known the country over as the Cotton Bowl Classic.

The Cotton Bowl was one of the very first stadiums in the South to be provided with floodlights. In 1930, 48 Crouse-Hinds LCE-1020 1500-watt floodlights were mounted on six, 70-foot towers. This installation was based primarily on the lighting system which had previously been used at the Rose Bowl in California.

In 1936, six additional floodlights were added to each tower. These units were the then recently designed Crouse-Hinds Type MUA 43951, 1500-watt light duty floodlight with Alzak reflector, whereas the LCE type had been a heavy duty cast aluminum floodlight with a silvered glass reflector. This installation provided the field with from 10 to 15 foot-candles of illumination.

Rebuilding of the Cotton Bowl in 1948, naturally, brought about a third change in the flood lighting system. After due consideration of all factors involved, it was decided to design the lighting system on the basis of approximately 50 foot-candles of illumi-

(Continued on page 54)

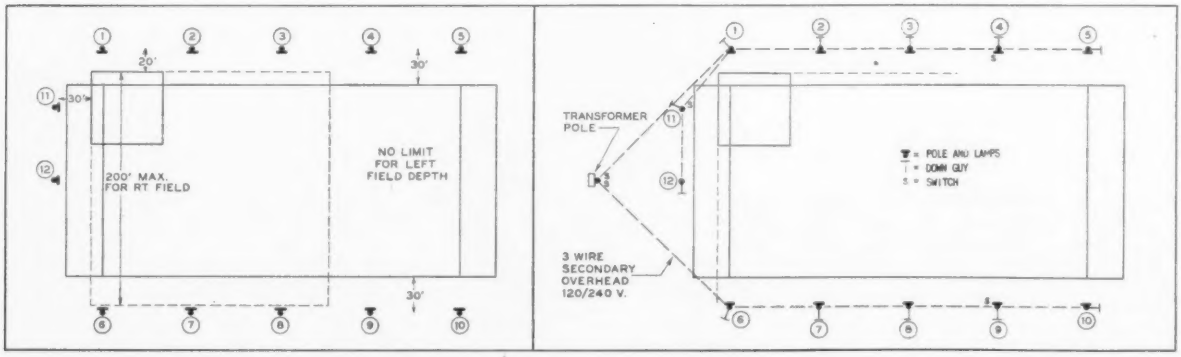


Fig. 2-A—When it is desired to use a lighted football field for night softball games, the arrangement shown in Fig. 1 is not practical if there are bleachers located on both sides of the football field. A suggested layout is shown here. Fig. 2-B—(Right) This figure shows the wiring, guying and circuiting for arrangement of 2-A.

That Extra Effort

A policy of assuring *extra* satisfaction has enabled this contractor to increase his net worth by 50 times in two years.

A CONTRACTOR who uses every resource and bit of ingenuity available to him to put that "extra" satisfaction in every job is bound to be successful.

Take Pete Mangum, for instance, of Southern Electric Service, Raleigh, N. C. Since he hung a shingle in January, 1947, he admits he hasn't had much sleep, for he's been sitting up at night answering emergency calls and figuring short-cut angles to save money and time in installations—money-saving for his customers and time-saving for himself. And the fact that he started with $1,000 capital and then did a $300,000 volume in 1948 speaks well for his success.

As an example of an "extra"—the young Mr. Mangum, who was an Army Engineer Captain during the war, neatly solved the problem of the "right light at the right time" in a skating rink at the Brooks Recreation Center in Raleigh by doing extra brain-work to use substitute materials for instantaneous starting of the 36 eight-foot slimline fixtures that give an intensity of 50 foot-candles on the rink floor.

While this small item is minor, it is evidence of the energy that Mr. Mangum has used in building his firm—evidence of his philosophy that: "I'd rather lose money than have one dissatisfied customer."

The young contractor is not an engineering graduate, but he has been literally raised in the electrical business since his father is city electrical inspector in Raleigh, and he has spent all his working career in electrical contracting. And he has spared no energy in further study in the electrical field so that he will be able to offer the extra kink that builds successful business.

His growth from a worth of $1,000 to some $50,000 net worth in less than two years has filled him with caution, for he knows that such rapid growth must be backed up with the continued thorough service that built the business.

Although P. M. Mangum, of Southern Electric Service, in Raleigh, N. C., handled a business volume last year of $300,000, he finds it advantageous to do his own drafting and engineering.

For instance, when Mr. Mangum started his business, he specialized in control wiring—automatic stokers, oil burners, and he never hesitated to pop out of bed on a cold night to answer a service call. Now he sells, installs, and services "anything from a waffle iron to the biggest air-conditioning unit made." His air conditioning installations at present do not include duct work.

Then he went into mass residential wiring, having wired about 1,000 houses, both for individuals and for project builders. Here he learned the tremendous value of employing thorough and conscientious workmen, and wound up with one crew of a mechanic and helper who could rough in the average house in two hours. As a matter of fact the efficiency of his crews reached a point where they worked so fast he found it hard to keep them busy. He presently pays somewhat above average electrician's wages in Raleigh, plus an annual bonus based on profits.

During this time, Mangum kept up his thorough study—and now handles such jobs as the $45,000 contract for the State Capital Life Insurance Company new building, which includes

(*Continued on page 29*)

Mr. Mangum shows the control center of one of his recent jobs — the Brooks Recreation Center, in Raleigh. Contrary to many contractors, Mangum doesn't find it necessary to specialize. He operates in the residential, commercial and industrial fields.

Planned Maintenance

by L. H. Houck

NEARLY every lighting contractor at some time has gone back to some of his old lighting jobs with a light meter and has been amazed at the drop in efficiency. It is not uncommon for a lighting job that measures 50 foot-candles on completion to drop to less than 25 at the end of one year.

This is, of course, no fault of the contractor or the manufacturer, and often is not even the fault of the customer, because the customer doesn't always know how to keep his lighting operating at best efficiency. Many lighting systems are unwashed year after year, and replacement of fluorescent tubes and incandescent bulbs is the responsibility of a 50-cent-per-hour janitor.

Just four months ago, B. E. Smith, an experienced electrical contractor and lighting man, opened the Smith Fluorescent Maintenance Service, in Jackson, Miss. Even though the average owner of a fluorescent lighting system has to be educated to the idea of employing maintenance specialists, and most of them assume that their lighting will run as long as the one hoss shay, Smith has received a volume of maintenance contracts that has required the addition of a second service crew. The volume is still going up, and Mr. Smith spends most of his time handling negotiations with prospective customers.

Many contractors in the Jackson area have also found the Smith Fluorescent Maintenance Service useful as a means of eliminating unprofitable service calls. Consequently, many of the Smith customers are electrical contractors who do a large number of lighting jobs.

Since Smith specializes in maintenance and service, a contractor is often glad to recommend that the customer keep his lighting system in tip-top shape by using the maintenance service which operates on a yearly contract basis.

Smith's selling begins with a series of three letters to the owners of fluorescent lighting systems. He does not service any other kind.

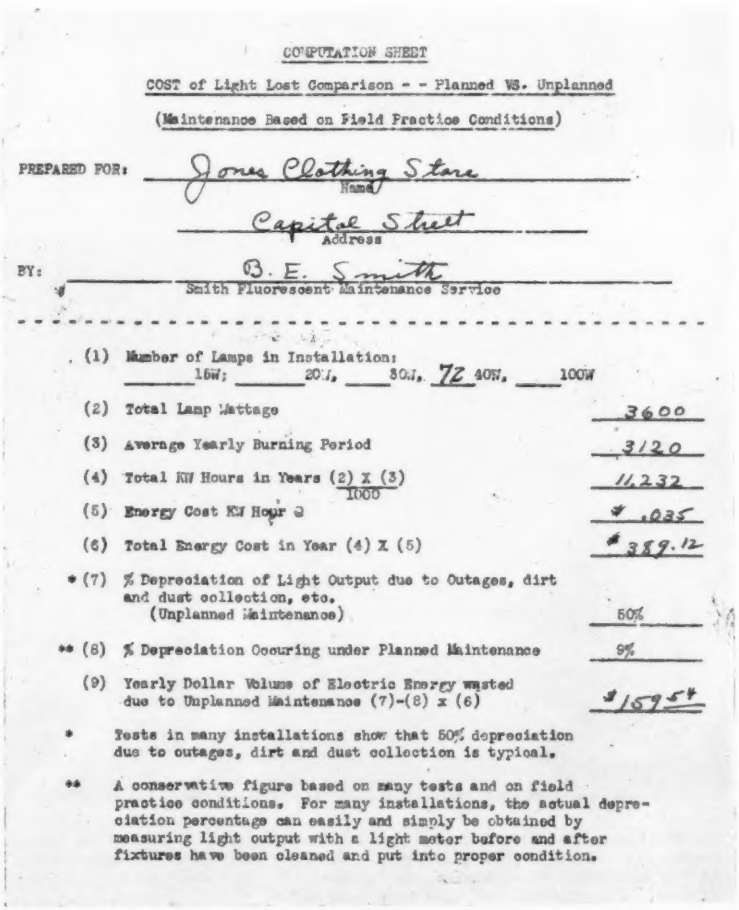
These three letters progressively advance the details of the service offered.

The customer is told that dirt, the greatest enemy of any lighting installation, can cause a 20 per cent drop in lighting output in less than six months. Fluorescent lights, he tells them, good as they are, drop a few lumens during the same time, which usually adds up to the fact that the customer is getting but two-thirds of the light he has paid for.

He then calls attention to the good reasons they had for getting a certain number of foot-candles of light, such as reduction of returns, easier selection of merchandise, and just plain improved seeing qualities and eye-strain reduction.

They offer regular cleaning of all fixtures, lamp replacement, and repair of auxiliary parts, such as replacement of ballasts, lampholders, starters, and wiring. While most of this work is done at the regular 90-day cleaning periods after the contract has been started, the service does include service for any detail at any time.

Mr. Smith points out that when ballasts are to be replaced, by reason of their specialization and knowledge they can almost always replace this unit without removing the fixture and taking it to the shop. As a matter of fact, almost all repair work is done on a ladder and ballasts are replaced in less than 20 minutes. Smith crews are also small. One man does a ballast job. Three-man crews usually work on three fixtures at a time.



COMPUTATION SHEET

COST of Light Lost Comparison - - Planned VS. Unplanned

(Maintenance Based on Field Practice Conditions)

PREPARED FOR: Jones Clothing Store (Name)

Capitol Street (Address)

BY: B. E. Smith, Smith Fluorescent Maintenance Service

(1) Number of Lamps in Installation: ___ 15W; ___ 20W, ___ 30W, 72 40W, ___ 100W

(2) Total Lamp Wattage — 3600

(3) Average Yearly Burning Period — 3120

(4) Total KW Hours in Years (2) X (3) / 1000 — 11,232

(5) Energy Cost KW Hour @ — $ .035

(6) Total Energy Cost in Year (4) X (5) — $ 389.12

* (7) % Depreciation of Light Output due to Outages, dirt and dust collection, etc. (Unplanned Maintenance) — 50%

** (8) % Depreciation Occuring under Planned Maintenance — 9%

(9) Yearly Dollar Volume of Electric Energy wasted due to Unplanned Maintenance (7)-(8) x (6) — $ 159.54

* Tests in many installations show that 50% depreciation due to outages, dirt and dust collection is typical.

** A conservative figure based on many tests and on field practice conditions. For many installations, the actual depreciation percentage can easily and simply be obtained by measuring light output with a light meter before and after fixtures have been cleaned and put into proper condition.

If no request to call comes in from the three letters, the prospect gets a piece of printed advertising with which there is included a return post-free card, requesting a survey.

When this card is returned, or the prospect asks Mr. Smith to call, then the selling of the service takes place.

Most people in the electrical industry know that every selling job is beset with difficulties no matter how good the product or how experienced the salesman. Selling fluorescent service is no exception.

It can often be the case that the customer who most wants to buy this monthly fluorescent service will have a lighting system that cannot be accepted on that basis until it has been restored to peak efficiency.

As a matter of actual fact, Smith requires the owner to bring his system up to par before the contract begins. This involves the survey which is always made prior to making a contract. Mr. Smith lists the fixtures, examines their conditions, listens for excessive humming of ballasts, and notes the number of tubes with blackened ends. When the deal is closed he will bring the system up to par, bill the customer for the materials and parts, plus labor cost. At this point the maintenance contract starts and the customer is required to pay the first month's service in advance and all contracts run for one year with an option to renew for one year. This option makes it possible for the customer to continue the contract for a second year without making out and signing a new contract.

B. E. Smith (left), manager of Smith Fluorescent Maintenance Service, of Jackson, Miss., has just brought another prospect to that climactic point where he signs on the dotted line for "planned maintenance."

Mr. Smith's labor charges and service call charges are in keeping with the rate in effect by other contractors, with each separate call on jobs not under contract running $3.00.

When Mr. Smith comes in to sell a customer a contract, he brings along his light meter and makes careful checks of the actual light output and records it when he makes a formal survey. He makes sure the customer

(Continued on page 52)

COST COMPUTATION
OPERATING COSTS ON
UNPLANNED MAINTENANCE

(10) Lamp Replacement Costs (Based on (1) and (3).
____ 15W @ 75¢ $____; ____ 20W @ 75¢ $____; ____ 30W @ 75¢ $____
72 40W @ 1.00 $72.00; ____ 100W @2.30 $____; ____ 42"Slim @1.55
$____; 64" Slim @ 1.75 $____ 72" Slim @2.00 $____ 96" Slim @2.70
$____

(11) Total of (10) $72.00 less lamp discount of 25% $ 54.00
Plus Fed. Excise Tax (10.4% of list) $ 7.49
61.49

(12) Starter Renewal Cost per Year:
15 and 20W Startor @ .26 $____; 72 30 and 40W
Startor @ 28¢ $ 18.72; 100W Starter @ 30¢ $____

(13) Total of (12) $____ less billing discount of ____% $ 18.72

(14) Estimated Labor and Material Costs Replacing and Repairing:
(a) Defective Ballasts $ 10.00
(b) Broken Lamp Holders and Starter Sockets $ 3.00
(c) Switches $ ✓

(15) Estimated Labor costs of Replacing @ 50¢ $ 12.00
(10) Lamps 30 min. per lamp $ 6.00
(12) Starters $ ✓

(16) Cost of lamps broken in storage (est.) and handling $____

(17) Other intangible costs due to insufficient light. Sales lost because of blinking or burned out lamps, etc. $____

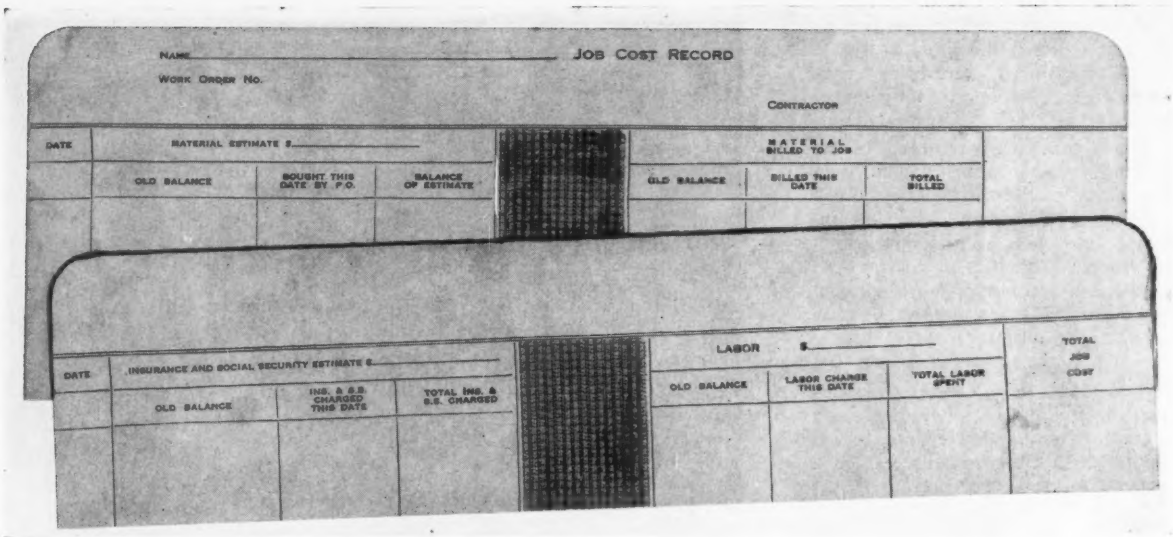
(18) Cost (Total) - Unplanned Maintenance
(9) $157.50; (11) $ 61.49 (13) $ 18.72
(14) $ 13.00; (15) $ 18.00; (16) $ ✓ (17) $ ✓
Total $270.75

Operating Costs of
PLANNED MAINTENANCE

(19) Monthly charges quoted - nothing more to pay $ 14.40
(20) Yearly charges (12) x (15) " " " $ 172.80
(21) Plus all advantages of Planned Maintenance, Immediate replacement of burned-out lamp Starters, ballast, and complete insurance against any electrical troubles, plus planned cleaning at regular intervals. Your fluorescent fixtures are maintained at a maximum operating condition by a skilled electrical maintenance organization at a fixed monthly cost.

$270.75 Unplanned
172.80 Planned
$ 97.95 Saving

The Smith Fluorescent Maintenance Service, of Jackson, Miss., have found these analysis forms helpful in selling their service. The form at the left evaluates the cost of electric energy for lighting lost through unplanned maintenance. The form at the right compares the cost of unplanned maintenance with the monthly charges for planned maintenance.



Accurate Bidding

by Bolling Branham

ACCURATE BIDDING is an important factor in successful electrical contracting. How to develop it is the problem. Joe Dunn, owner of Dunn Electric Co., 2238 Sumter St., Columbia, S. C., believes that accurate cost accounting is the proper basis for developing accurate bidding.

Dunn uses a system of daily and weekly posting that has enabled him to have complete control over costs, since he can immediately spot points in any job where costs are running over estimates.

Mrs. Dunn, who manages the office, does the actual posting and record keeping of the company, with assistance of other office personnel, and Dunn's long experience in electrical contracting and in the electrical business helped him to make money from the beginning when he started his electrical contracting business five years ago.

"A contractor must have confidence in the accuracy of his take-offs of material and the estimating of labor," Dunn says. Dunn's records aid in giving him this confidence—and also an excellent record accuracy.

In bidding a given job, Dunn makes a breakdown of the job into sections. A recent job had five sections: floor duct, telephone conduit, branch circuits cut-in and distribution (including panels), and fixtures and lamps. Usually, the cut-in and distribution are separated. Cost of materials are accurately estimated, and from this figure, labor is also estimated. An estimate on both labor and materials for each section of the job is figured in detail.

After Dunn's bid is accepted on any given job, a job file is opened that begins, of course, with the name and job number. A number is also given to each section of the job.

Then a master card for cost records, drawn up by Dunn, and adjusted to fit a posting machine, is made out for the job. This card shows the total estimates for materials and labor—the estimates for each section of the job. In the left hand materials column, the cost of materials is recorded when purchase orders are issued, and the amount of each of these purchase orders is deducted from the estimated total, giving a perpetual record on the amount spent on materials, and the remainder of the estimate. Records of this type for each section of the job are also kept, so that a glance at these cards at any given time will disclose the costs to date on any part of any job being worked by the company.

In the right hand column of these cards is kept the same sort of materials record, only these figures are not posted until the material is actually billed to the company.

Materials posted as leaving Dunn's warehouse are all ticketed by job number and checked through the stockroom clerk. These tickets go to the office, where materials records are made part of the job file.

The record of labor expended as against estimates for a job, and for sections of a job, are also kept in the same fashion and in the same detail. Daily labor time sheets are made a part of this permanent record.

Sub-cards, carrying these figures for each section of the job, enable Dunn to spot overcosts by turning through the cards on any job. If labor is not producing as it should, there is no guesswork about where the trouble-spot is; Dunn can see it immediately, and further investigation brings correction before the overcost is serious.

Costs of insurance, social security, and other overhead expenditures are always figured into the labor costs and made a part of this record.

Shown above are the front and back views of the master card designed by Dunn for use on a posting machine. A card is maintained for each job, and for each section of large jobs. A running total is kept on material and labor which enables him to tell quickly if costs on any job are getting beyond estimates.

Dunn, as mentioned before, uses a posting machine adjusted to fit his specially-printed cards, but points out that the same type of accurate records may be kept by hand, with the use of an adding machine facilitating the calculations.

Valuable Cost Record

The file therefore contains a thorough cost record and history of each job, and Dunn makes a close study of these files to determine the accuracy of his bids. These records give him the confidence necessary in making bids, and Dunn says that rarely do the records lead him astray. Once in a while, he says, he may make some small error in estimates, caused by unforeseen factors, but very seldom is it that there is any appreciable percentage of error in the estimate and the cost of the completed job, with Dunn's profit figured in.

Even after the job file is closed, it is kept for two years on any one job, so that the information is available in case any question concerning actual costs comes up again.

Dunn, himself, of course, takes all cash discounts available to him, by paying bills promptly. Not only does this policy save money on discounts, but keeps his company's credit in good shape, and cements relationships between his company and the supply houses. When a good buy comes along, Dunn gets tips from contacts and friends in the supply business and gets the advantage of many a bargain.

What to buy and when to buy is also a matter that rates top consideration at this firm—especially in this day of fluctuating prices. Dunn subscribes to the National Pricing Service, and adheres to this as much as possible. He has been very careful to avoid being overstocked.

Joe Dunn, owner of Dunn Electric Co., Columbia, S. C., at his desk. His careful attention to records on job costs has enabled him to bid accurately and assure himself a fair profit on every contract.

Dunn has gone about the business of developing his company with the same diligence that he has applied in record-keeping. He takes an active part in civic and club work and goes well out of his way to do favors for friends and business associates. He uses quite a bit of specialty advertising, and has calls and recalls from friends and customers for many specialty items he has given them. He feels that this give-and-take of social relationships is valuable to any man in business, electrical contracting or any other.

His company handles commercial and residential wiring, though he does some industrial work, particularly in maintenance. Maintenance service leads to bigger and better jobs according to this contractor, and he does all of the small jobs thoroughly.

That Extra Effort

(*Continued on page 25*)

practically every new commercial electrical product for such commercial jobs—floor duct, with openings for power, lights, or telephone so that desks in any position are always adjacent to these services. Two six-inch conduits bring in the 1,000,000 circular mil service to the multi-breaker panels.

That is certainly fast growth, and Mr. Mangum states succinctly that his own idea of his growth may be stated in a few words: "Good help, accommodation, satisfaction, and honesty."

He has now taken a franchise to handle commercial refrigeration and air conditioning and presently has one salesman working these accounts.

Aerial Cable

. . enables TP&L to meet need for heavier secondary distribution . .

by T. D. Thomas

DURING THE PAST few years, the Texas Power & Light Company has had requests from some of the towns it serves to install underground distribution systems. It appeared that the primary reason for these requests was for improved appearance in the business districts of those towns where the larger load densities caused the service facilities to become congested.

A number of years ago, power loads and lighting loads on the Texas Power & Light Company system were usually supplied from separate primary circuits, transformers, and secondaries. This required two sets of facilities in the business part of the town and the necessary multiplicity of wires resulted in unsightly conditions.

This was improved to some extent later by the use of combination lighting and power transformer banks and secondaries. This usually reduced the primary circuits to one and the secondary wires from six to four but did not remedy the situation in all cases.

Within recent years especially has this been true since air conditioning loads have grown enormously in the downtown areas. These installations running from fifteen to several hundred horsepower each have presented new problems due to across-the-line starting being imposed on normal operating loads in concentrated load areas where facilities were already congested. As a consequence, secondary and primary conductors have been increased in size to a point where the appearance leaves much to be desired in the eyes of some of our city officials.

We anticipate that in the future we shall receive other requests to improve the appearance of distribution systems. As an alternative to overhead systems, underground systems could be installed but, in our opinion, the Texas Power & Light Company does not serve any towns of sufficient size to justify the cost of installing underground systems. It, therefore, has become desirable to have some alternate and less expensive method of improving the appearance of heavier distribution systems. We believe that aerial cable is at least a partial solution of this problem.

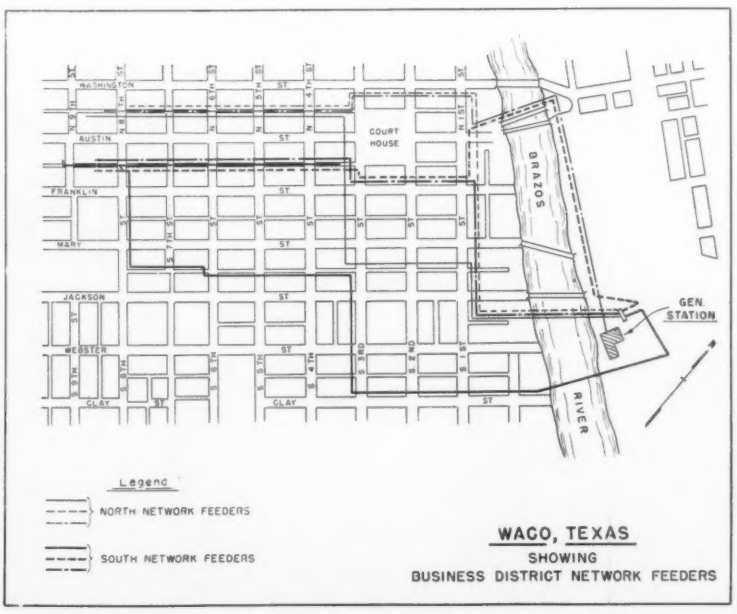
We know, of course, that the telephone companies have been using aerial cable for years but, as far as I know, it has been only within the last two or three years that the electric companies have attempted to use aerial cable. The Florida Power & Light Company has pioneered this development.

After experiencing one of its tropical storms, the Florida Power & Light Company began an investigation to determine what could be done to reduce the damage and troubles caused by the storms and, at the same time, improve the appearance of its distribution systems without going to the expense of placing those systems underground. Trial installations were made using a standard spinner ordinarily used to spin telephone cable on a messenger wire.

As it appeared that these installations would be successful, they proceeded further with the development of a traveling spinner for use with larger cable, and one that would lash one, two, or three conductors to a messenger in one operation. The only spinning machines commercially available at the time the development started were for use with one cable having a maximum diameter of 2¼ inches.

For aerial cable spinning, a machine was needed that would handle three single conductor cables with diameters up to 1¾ inches. Working with the Cable Spinning Equipment Company of Topeka, Kansas, such a cable lashing machine, commonly known as a "spinner," was developed. A guide or "stringing trolley" was also developed which when pulled along the messenger ahead of the spinner, picks up, straightens, and forms the cables into triangular configuration.

The Florida Power & Light Company is now in the process of installing 500,000 conductor feet of aerial cable. Most of this cable is 300,000



WACO, TEXAS
SHOWING
BUSINESS DISTRICT NETWORK FEEDERS

Mr. Thomas is chief engineer for Texas Power and Light Co., of Dallas, Texas.

cm. All of this cable is to be spun in the field, none of it being preassembled by the manufacturer. The Texas Power & Light Company learned of these installations and sent representatives to Florida to investigate the use of this aerial cable.

From the investigation, it appeared that the use of aerial cable presented a number of advantages over open wire circuits. Some of these are: (1) improved appearance, (2) greater safety with insulated conductor, (3) wider possibilities of circuit routing, (4) reduced clearance required for cable, (5) reduced tree trimming requirements, (6) improved continuity of service during storms or emergency conditions, (7) improved voltage regulation, and (8) less congestion of wires on existing pole leads.

Aerial cable was first, and still is, being manufactured as preassembled cable, the conductor being lashed to the supporting wire by metallic tape or binding wire and the completed cable shipped on reels to the point of installation. This preassembled cable has a tendency to twist while being installed so that the conductors, instead of being below the messenger wire, will be on top of the messenger wire in some places.

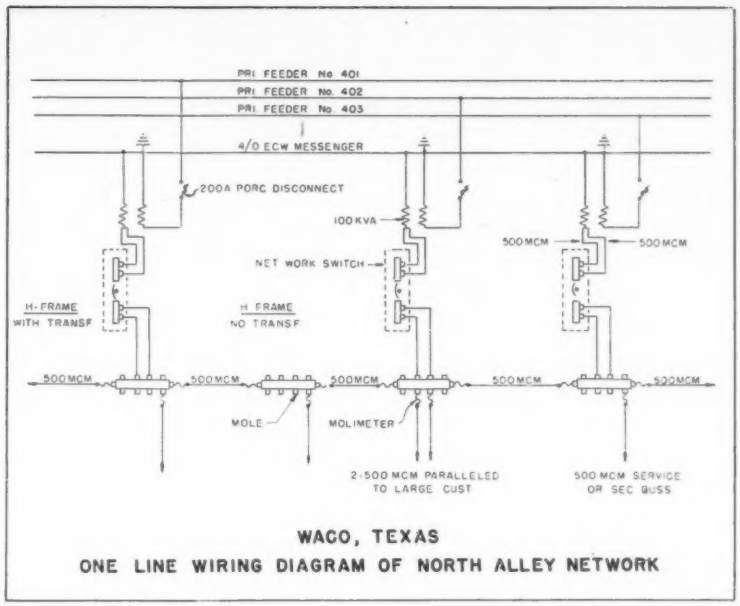
While this is not particularly objectionable from an operating standpoint, it is not desirable as far as appearances are concerned. Experience has proven that a binding wire can be spun around the cable and a previously strung messenger without having a tendency for twisting. In addition, the field spinning method has proven to be more flexible in that it is possible to fabricate the cable to suit the requirements of the particular situation.

The first aerial cable installation by our company was at Tyler, Texas, where the load growth in the downtown area had advanced beyond the limits of the 2.4 kv primary system. The distribution system was in narrow alleys and clearances could not be obtained for open wiring with a higher primary voltage. On this installation, we used preassembled 15 kv, self-supporting, 3-conductor, No. 6 copper-shielded cable with 19/64 inch synthetic rubber insulation. The messenger supporting wire was 5/16 inch H.S. 30% copperweld.

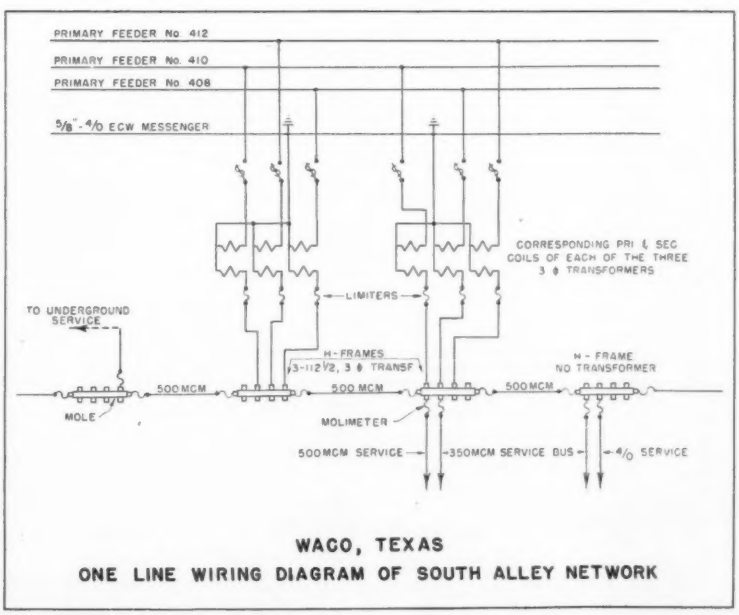
This cable was installed down the alleys from open wire 12.5 kv primary feeders on the cross streets. The cable was terminated at the source and load ends with single conductor pot heads to supply utilization transformers mounted on steel racks in the alleys. Four such installations were made early in 1948 and three others are to be made this year.

In the installations, the preassembled cable gave no particular trouble in installation as the runs were short, being from 500 feet to 700 feet in length although the conductor did twist up above the messenger wire in some places. While our operating experience is short, satisfactory service has been experienced to date and the cable has given us no trouble during its first year of operation.

The second aerial cable installation to be made by the Texas Power & Light Company is now almost completed in Waco, Texas. Waco is the largest town served by the Texas Power & Light Company and now has a population of approximately 100,000 people. The main business district, which is on Austin Street, has 20-foot alleys on both sides. Other important loads on Franklin and Washington Streets parallel these alleys on the north and south sides, respective-



WACO, TEXAS
ONE LINE WIRING DIAGRAM OF NORTH ALLEY NETWORK



WACO, TEXAS
ONE LINE WIRING DIAGRAM OF SOUTH ALLEY NETWORK

ly. Electric service is provided from circuits strung in the alleys and supported on H-frames which span the alleys.

In the past, as the loads in the business district grew, facilities were added until, in some places in the alleys, there were as many as 27 secondary wires. The load had increased to such an extent that it had become absolutely necessary to install additional facilities and our investigation of aerial cable led us to believe that Waco was the ideal location for the installation of a secondary network.

Most distribution engineers are familiar with the advantages inherent in a secondary network in that it allows a greater utilization of investment and improves the continuity of service. However, secondary networks have nearly always been installed underground with the resulting high investment cost. Before we considered an aerial cable network, we had been studying the use of weatherproof conductors on an overhead network. In fact, a small part of the secondary in one of the alleys had been built and was operating as a 125/216 volt secondary network. As it appeared that the experimental work on aerial cable was successful, we considered the use of aerial cable and compared its advantages to that of an open wire network.

In making our study, we recognized that fault current on a network will be several times those where transformer banks of the same size are operating on a radial system. In open wire, the currents will be large enough to pull the conductor together in midspans during fault unless so great a separation is maintained that reactance will be increased to a point where the voltage drop is too great for satisfactory operation.

Aerial Cable Advantages

Aerial cable has an inherent advantage over open wire in that the phase wires are close to each other thereby reducing the reactance of the circuit. If weatherproof wires at 4-inch spacings, which is as close as practicable to space them, are compared with aerial cable of the same size, the weatherproof wire is found to have 55% more reactance which, at 80% power factor, amounts to 33-1/3% more voltage drop.

This means, therefore, that for the same voltage drop, open wiring would have to be 1/3 larger in size than the aerial cable and a 12-inch spacing, the spacing we normally use, the voltage drop for open wiring is still greater. After considering this, together with such other things as improvement in appearance and freedom from faults, it was decided to install an aerial cable secondary network at Waco.

Each alley will be served by three separate 4/0 copper, 4160 volt open wire primary circuits and a continuous 4-wire, 125/216 volt aerial self-supporting cable. The north alley will have transformer banks spaced at approximately 250-foot intervals consisting of three 100 kva single phase transformers on 18-foot steel transformer racks with secondary network protectors, the transformer banks being connected to alternate primary circuits. This will allow 2/3 of the banks to operate with one primary circuit failure.

The south alley will have spot networks, consisting of three 112 kva, three phase transformers, each operating from a different primary circuit and the secondaries in parallel. Burndy cable limiter fuses will be used in place of the network protectors in this alley. This will allow 2/3 of each bank to operate with one primary circuit failure. The two alleys have a load, at present, of approximately 3,000 kva each and the ultimate capacity of the networks will be approximately 7200 kva each.

So far as we know, this is the first aerial cable secondary network installation in the United States and the 500,000 cm cable we used is the largest aerial cable that has ever been installed by the spinning method.

This secondary network, operating at 125/216 volts, uses three 600 volt, 500,000 cm stranded copper wires with 6/64 inch synthetic insulation and 4/64 inch neoprene jacket. The cables are colored red, white, and black for identification. The cables are lashed to a ⅝ inch, type E, 4/0 copper equivalent copperweld messenger wire which acts as a neutral conductor and cable support. The messenger wire has an ultimate breaking strength of 20,730 pounds. It was pre-stressed for twenty-four hours at 10,300 pounds, 50% of its breaking strength, and then installed at a tension of about 3,000 pounds for 60° Fahrenheit.

By pre-stressing the messenger, the structures, messenger, messenger splices, and guys were subjected to better than medium ice loading without subjecting the cable to damage in the event of failure. Moreover, practically all permanent stretch is removed from messenger, insuring consistent final loadings and sags. This is an important point in favor of spinning aerial cable rather than installing preassembled cable.

Span lengths in the two alleys vary from approximately 80 feet to 140 feet. With the messenger strung so as to work at 30% of ultimate tension at 60° Fahrenheit with cables attached, the mid-span sag of 27 inches was calculated for a 130-foot span. With ¼ inch ice and a 4-pound wind at 30° Fahrenheit, the sag with a messenger tension of 7,600 pounds was calculated to be 26 inches. With no ice or wind, tension at 30° Fahrenheit was calculated to be 6,800 pounds. This relative small change in tension with ice is another factor in favor of aerial cable over open wiring where important loads are to be served. Also, less conductor area is exposed for ice accumulation where the conductors are grouped in a composit cable.

Terminating the Cable

The cable was terminated at each structure in Burndy Moles. Connectors to the moles are made with Burndy socket and nut assemblies and compression cones for 500,000 cm cables. This was done in order to provide for the service leads and for the installation of additional transformer banks in the future. Due to this method of construction there are no splices. However, if it ever becomes necessary, we are prepared to make splices by using a compression type sleeve and a hand operated hydraulic indenting tool. The length of cable required for each span and for termination in the moles was determined by measuring the distance between the structures and adding 2½ feet for sag and the mole connection.

In spinning the cable, a stringing trolley, riding the messenger wire on two grooved wheels, is pulled along ahead of the spinner and three fingers in the front of the trolley straighten out any twists in the cable within the span. Behind these fingers is a large flat pulley that supports the weight of the cables. A parabolic-shaped pulley at the rear of the trolley forms the cables into a triangular configuration with the apex pointing down.

The spinner rides along the messenger behind the stringing trolley on two small grooved wheels. Cables are carried through the machine on pulleys at the front and rear of the machine. The rear pulley is adustable to accommodate various diameters of cables, and to hold the cables snugly against the messenger in a triangular configuration.

As the machine is pulled along the

(*Continued on page 50*)

Escape from Socialism

by H. S. Bennion

Vice-President and Managing Director
Edison Electric Institute
New York City

WHAT ARE THE BASIC underlying conditions relating to any industry or to any company that invite or fail to repel the socializing process? As a general proposition a lack of ability to finance desirable or necessary expansions and improvements of service have been the proximate cause of government financing, and sooner or later government operation, but usually back of this step there has been a considerable history of acts of omission and commission that have contributed in part at least to this fatal lack of financial strength. Of course, the lack of finances may be due to causes beyond the power and timely measures of the best of management and the most skillful engineering, but in a specific case often an appraisal will show that over a long period of years there was a lack of forehandedness, a lack of aggressiveness, a failure to attract and develop and use leadership of character and caliber, years of neglect, avoidance of dealing with important weaknesses, deficiencies or difficulties, coasting, patching, compromising compounded, basic faults in the organization teamwork, poorly adjusted and applied price structures, indifferent or unaggressive sales planning and execution, lack of exertion or inability to meet new competition, inability to withstand or avoid the crushing weight of high labor costs, etc.

What has kept a service vital to the public from being socialized? This question is of more concern and application to our present operations. Some of these causes, and I shall deal with basic factors because they are the determining ones in any long hard and general struggle, are: A good record of adequate, dependable, high quality service; character, capability and responsiveness of the individual, employees from the president to the newest employee; keeping right on the job, a live and promising record of technical and commercial advances; a history of sound rate or price policies defensible against provocative comparisons or well aimed competition; and, not to be disregarded, are a successful and open financial record; a general and well established reputation for good leadership, for progressive spirit, for engineering and operating excellence and for responsible, willing and helpful participation in community affairs.

People have demonstrated time and again that they like and are proud of leaders of character and standing in their communities, leaders who are sincere, straight-forward, energetic, resourceful, progressive and able to give a good account of their stewardship. Such leaders are the best possible insurance against the advance of socialism. These statements apply to all American business and, as I said before, all or nearly all business are under the same pressure of government control and taxation and the threat of being engulfed in socialism.

Having in mind these survival factors relating to all American business, let us look now more particularly at the chances for electric companies to escape socialism as compared with other segments of the business world. As I see them, the strongest points in our favor are as follows:

1. Our business has far to grow. There is much technical work yet to do. There is a big selling job to be accomplished. In both of these fields private enterprise, according to all recorded history, has an enormous advantage. It is outstandingly more effective than other types of enterprise. This is by far the most favorable factor on our side. We have and always have had a progressive commercial spirit, a driving urge to give our customers the advantage of every new and useful development. Socialism attacks most successfully the mature or back-sliding business.

2. We use a relatively small labor force and our engineering and organizing skill have not exhausted the full possibilities of saving manpower in our operations. We do not face the threat for many other industries that labor costs have brought or may bring.

3. We are meeting the demands for service. It seems to me that the biggest and most encouraging augury for a long and successful future for the electric companies as a whole is the fact that after twenty years of powerful and merciless attacks they have had the financial credit, the public

J. E. S. Thorp, left, president of the Southeastern Electric Exchange introduces H. S. Bennion, vice-president and managing director of the Edison Electric Institute, one of the featured speakers at the Exchange meeting.

spirit, the capable and courageous leadership, the engineering skill and the energy and drive to launch a six year program to add 52 per cent to their facilities at a gross cost equal to three-fourths of their fixed capital and that they are already half way through the huge undertaking, although the hardest half from a financing point of view lies ahead. Their financial standing is improving steadily and deservedly so from deep and sound considerations and what is very important is that the facilities being built are highly efficient and well suited to render long years of useful and profitable service.

We are not building something to meet immediate demand that must soon be scrapped or written off. It is well built and will serve our customers well for years to come. This holds true not only in the efficient power stations we are building but for the transmission and distribution lines and substations. The efficiencies and economies effected are already manifesting their beneficial influence. Furthermore, we are faced with very little scrapping of older plants. The uses for peak load capacity, the possibilities of aerial warfare, however remote, make it good sense on the part of companies and regulatory authorities to keep in useful status plants with an economy rate of say two pounds of coal per kilowatthour, and this includes about 90 per cent of our capacity in service at the end of World War II.

4. We have the spirit of service. We have long been through the fire of hostile criticism and attack. We are not self-satisfied and have little chance to get that way.

5. With all our individualism and pronounced diversity of views, a natural and I think desirable by-product of the initiative and resourcefulness of the free enterprise system, we work together better than ever before and are more aware of the fact that a weak spot anywhere, an invitation to an entering wedge in any part of the country, tends to make the rules, the public opinion climate, and the reputation for the industry everywhere.

6. We are more awake to the task of selecting, training and inspiriting personnel. It is men and spirit after all and not machines that supply the will to advance and the determination to survive.

7. We are economy conscious and we practice it. We do not cover up inefficiency and wastefulness with demands for more money to spend. Before we ask for rate increases we first comb over our operating costs to look for any drift away from efficient and sound economy.

8. Our financial standing is decidedly up from its low point and on the mend. Investors show good signs of turning toward the stability of electric utility stocks.

9. Our leaders are aware of their obligations to lay before regulatory commissions the need for earnings that will give fair returns to investors. There is a better mutual understanding between company management and commissions on the basic questions relating to investors, consumers and employees. Much of the recent rate history shows that.

10. We are fortunate in being supplied and stimulated by the most progressive, technically competent, resourceful and best informed manufacturers in the world.

11. Though we have yet far to go in many sectors, we have advanced substantially toward esteem and good repute with business rank and file and with the public. We are not envied or begrudged as we once were. Other businesses have seen our sorrows and humiliations. We have been getting our come uppance for about twenty-two years now. Business today is much more cognizant of the fact that we are all in the same boat and has quit looking upon us as a bad boy who had it coming to him.

Optimistic of the Future

These basic and important factors lead me to feel strongly that as a group the electric utility companies have a far better than average prospect for surviving the onsweep of socialism in this country. I think we have more of the important ingredients for survival from socialism than is true of most other important industries. The resistance record so far of the electric utility companies, I believe, is encouraging if full account is taken of the powerful force of the destructive measures that have beaten upon them.

After fifteen years of loans, grants, subsidies, acquisitions, adverse legislation, orders, regulation and judicial decisions, electric utility companies in proportion of total sales to ultimate consumers have dropped only 9 per cent. Where they formerly sold 94 per cent of all kilowatthours to ultimate consumers in this country, they now sell 85 per cent. That this loss has not been much larger has been due principally to the devotion of management and employees to the principles of a free economy and the willingness of investors and directors to take a long view of their financial interests and responsibilities and the contributions they were in a position to make to the preservation of economic and political freedom in America.

How long will this drive for socialism last? The price of freedom, we are told, is eternal vigilance. The struggle for technical improvement and commercial expansion must go on always if we are to keep in the vanguard of progress. Retrogression sets in the moment this struggle ceases. The movement toward socialism has been gaining momentum for several decades. World War II helped and hurt the cause of free enterprise. The progress of socialization reduces the tax rolls and enlarges the clamoring needs of government agencies for more money. Surely one day there must come a sharp showdown on federal spending and on the fiscal position of the Federal Government which will choke off the appropriations, reduce the subsidies, spread more widely the tax burdens and halt the growth of socialization by reducing the tax money it grows on; but the United States is a big and powerful nation and no one can say when finances will force such a change. I have heard estimates of five, ten, fifteen and twenty years before federal finances will bring the issue to a head.

In the meantime, undoubtedly many more businesses and companies will have fallen to socialism. It seems to me, however, that if the electric utility companies take full advantage of their capabilities and opportunities and resolve to endure to the end, they will fare far better in withstanding this baleful disease than most other businesses. The struggle is surely worth the alternative cost. We were given a great heritage by those who went before us. Surely we owe it to those who will come after us to do everything reasonably within our power in our time to pass it on to them unimpaired.

It seems to me that the severest tests to the electric companies will come in the old form of moves for municipal ownership, for public utility districts and other such government creations where the real consideration will be the familiar problems of balancing tax avoidance by government operators and other such special privileges, on the one hand, and good service and local tax payments on the other. I am sure also that the best insurance for each company against such danger ever arising in its service area is a big and genuine credit bank of local public esteem con-

(Continued on page 49)

S. E. Conference

TWO PROBLEMS in particular occupied Southeastern utility executives at the Sixteenth Annual Conference of the Southeastern Electric Exchange, meeting at the Boca Raton Club, Boca Raton, Fla., in April. How to overcome increasing trends toward socialism was touched upon by several speakers in the course of the three-day meeting. The other problem which received detailed consideration was that of the lack of risk capital for light and power company financing.

In the president's address, which followed an address of welcome by McGregor Smith, president, Florida Power & Light Co., J. E. S. Thorpe reviewed the expansion of activities of the Southeastern Electric Exchange. How the future appears to the utility industry, he pointed out, will depend largely on the attitudes of company managements. More must be done than just render good service at low rates—the industry must convince the public of the need for business operated utilities, he said.

"A compilation of installed generating capacities of the 31 companies comprising the membership of this Exchange," Mr. Thorpe said, "shows that as of December 31, 1948, there were installed a total of 6,765,093 kilowatts. Whereas this is an impressive picture, the contemplated additions during the next four years should make history for the Southeast. Member companies' plans call for additions to generating capacities by the end of 1952 totaling 2,885,910 kilowatts—an increase of nearly 43 per cent."

H. S. Bennion, vice-president and managing director of the Edison Electric Institute, New York City, addressed the Conference on "The Electric Utility Industry is Meeting a Growing Country's Demands." (A portion of Mr. Bennion's address relating to the industry's ability to survive current trends toward socialism appears in another section of this issue as a separate article.)

"Today, the electric utility companies find themselves facing an unprecedented rate of growth of power demand," Mr. Bennion said. "In eight years, the consumption of electricity in this country has doubled. This is an average annual rate of increase of 10.2 per cent compounded as compared with long-term growth previous to 1940 of less than 4 per cent per annum.

"Although there is some sign of slacking off in this present rate of increase in most sections of the country, there is already so great a momentum in research, development, and design of machines, and in development of processes to use electricity, and there is so much a premium on labor saving and so much value to the various classes of retail consumers in more uses of electricity, that it is generally estimated that the normal load growth over the decade beginning with 1950 will be 5 per cent compounded. Some capable estimators think it will be somewhat higher than that.

"The electric utility companies in six years from 1947 to 1951 plan to add 21,000,000 kilowatts, which is a 52.5 per cent increase, and over 15,000,000 of these kilowatts are scheduled to come in this year and the next two years. Delivery dates on heavy equipment are being shortened considerably by manufacturers.

"Notwithstanding this magnificent achievement of the electric companies, the Federal Government is going ahead with power developments which would increase its present 5,000,000 kilowatts of installed capacity to 20,000,000 kilowatts by 1960. A five per cent compounded load increase would mean that the private electric utility companies by that time would have installed capacity of approximately 100,000,000 kilowatts. Nevertheless, larger plans of Federal Government bureaus have been revealed which indicate further power developments to bring total Federal Government capacity to about 50,000,000 kilowatts. The bulk of this, however, is in the Far West."

S. C. McMeekin, president, South Carolina Electric & Gas Co., Columbia, S. C., was elected president of the Southeastern Electric Exchange at the concluding session of its 16th annual conference.

"An Electrified Future," was the subject of an address by Chester H. Lang, vice-president, General Electric Co., Schenectady. It is particularly fitting that this discussion of an electrified future takes place in the South, Mr. Lang told the group. For the South is something like those weather stations in Greenland where we can detect, in advance, the coming pressures of storms that sooner or later will sweep across the electrical industry.

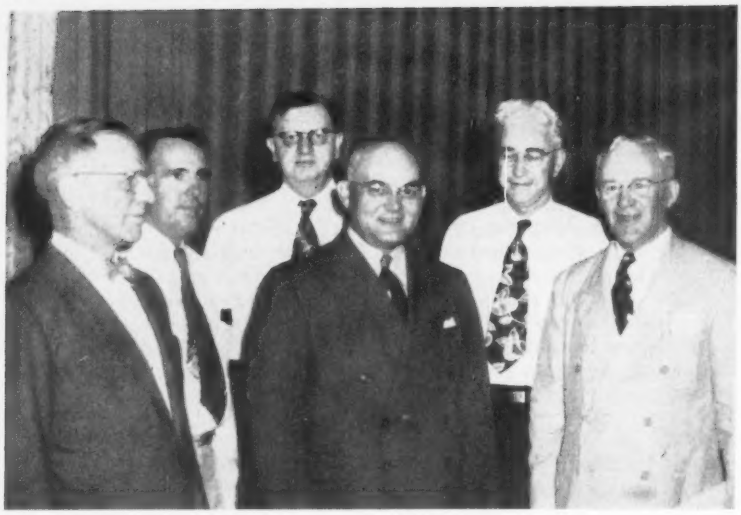
South Leads Nation

The South is ahead of the nation in many aspects of growth, Mr. Lang said—in gains of population, in rate of industrial growth, and in gains in power output. These high pressure factors are putting new dynamics in the drive of southern progress. They open up new electrical opportunities faster than normal.

"We can expect the South to be the battleground for the struggle of private versus public industry," Mr. Lang said. "Here, the issues are sharply drawn. The challenge has been made, and I can feel the blood pressure in this room go up as I mention the word *New Johnsonville*. But perhaps the force of socialism made two mistakes in judgment. First, they picked the wrong battleground: this is Rebel country! And second, they picked the wrong industry: this is a tough, battle-scarred industry that never has been and simply can't be defeated."

In meeting the problems that face it, the utility industry is operating along several well-defined lines of action, Mr. Lang said. Some of the things which are being done today by the electric utilities to assure an electrified future are:

The continuing program of plant



Some of the guest speakers and officials in attendance at the 16th annual conference of the Southeastern Electric Exchange, at Boca Raton, Florida, in April. Left to right are Chester H. Lang, vice-president, General Electric Co.; McGregor Smith, president, Florida Power and Light Co.; John W. Talley, executive secretary of the Exchange; C. B. McManus, president, Georgia Power Co., and newly elected second vice-president of the Exchange; W. O. Turner, president, Louisiana Power and Light Co., and new first vice-president of the Exchange; and J. E. S. Thorpe, president, Nantahala Power and Light Co., retiring president of the Exchange, who presided over the annual conference.

expansion. This is no time to debate the issue, he said—just move in the generators and start selling electricity.

An increasing awareness of public relations. Today, it is recognized that a vigorous, forthright, and well-supported program of public relations is an indispensable part of successful operations and the best assault against the roadblock of unnecessary government interference, under the guise of regulation.

Renewed willingness to fight for sound financial results. Utility needs for new private capital amount to more than a billion a year, representing one-seventh of the new capital needs of all industry. Earnings must be attractive enough to bring in this capital.

Emphasis on better recruiting campaigns. The most important event in the life of a company, Mr. Lang said, may be the arrival of a new 22-year-old assistant power salesman—a fellow who may be destined to be the company's president. Personal participation of executives is required to attract the good, courageous men needed by the electrical industry.

"Topping all these activities," he pointed out," is the need to forge brand new markets for electrical methods. The industry must be motivated by a long-term view of its potential. Why be satisfied with a mere 6-kilowatt hours per man hour? Why not 25? 50? 100? The storehouse of necessary ideas is ready to be tapped Why must we be so ploddingly slow in putting them to work, he asked. Mechanized materials handling; instrumentation; automatic process control; adjustable speed drive; continuous processing methods; the push-button factory is no further away than the reach of our imagination."

Thomas H. Beck, chairman of the board, The Crowell-Collier Publishing Co., concluded the first day's program with a discussion of the international situation. Mr. Beck drew upon his extensive travels and contacts with writers throughout the world to explain the international tension that exists.

The electric power situation in the United States and Europe was discussed at the second session of the Conference by Walker L. Cisler, executive vice-president, Detroit Edison Co., Detroit. In discussing the power development of the past five years and the projected development up to 1951, Mr. Cisler emphasized that there should be a more adequate balance between water power and thermal generation. It has been his observation that in the areas where restrictions were in effect, hydropower was the predominant power source. There is a need for better co-ordination in hydro and thermal power generation.

Mr. Cisler told the group that there was little prospect for power generation for industrial use from atomic energy for many years. For the present, he said, power installations are being completed which will serve their economic life before the use of nuclear energy plants will come into any widespread use.

The role of the Federal Government in the power industry, he said, needs to be defined if the power industry is to progress on a sound and wide basis.

Risk Capital Needed

Speaking on the public utility financing problems in a competitive market, Albert H. Gordon, president, Kidder, Peabody and Co., New York City, said that the utility industry is going to have to raise a great deal of money for expansion programs. Conditions of tax rates and high living expenses have put the individual investor into a disappearing class.

The preferred stock situation of the utility industry is not encouraging, he pointed out. Some stocks have suffered large decreases. One, for example, dropping from 107 to 80. Institutional buyers such as insurance companies cannot risk such decreases in valuation which would in many instances result in large decreases in their surplus.

A great deal of common stock is going to have to be sold in connection with expansion programs. In the past few years, experience indicates that industrial common stocks have been more favored than utility common stocks. If an investor had bought one share of every utility common stock offered in 1946, his loss would have been 25 per cent. In 1947, the loss would have been 11 per cent. Stocks sold in 1949 so far have had to have a yield of more than 7 per cent to attract buyers.

Mr. Gordon then considered what was wrong with utility financing from the investor's point of view. He pointed out that the restrictive regulations that confront the industry are considered ridiculous. No other large industry can match the maintained earnings of the utility industry during wartime conditions. Fear of government competition must be fought on all fronts by the utility companies.

He recommended that utility companies protest the SEC rule regarding competitive bidding for common stock offerings. Elimination of preemptive rights of stockholders has been advantageous in many instances.

Selling conditions for common

(*Continued on page 46*)

INDUSTRY NEWS

Kaiser Aluminum Production Scheduled

PRODUCTION will get underway in June at the new Kaiser Aluminum rod, bar, wire, and cable mill at Newark, Ohio, according to D. A. Rhoades, vice-president and general manager of The Permanente Metals Corp.

The first section of the new mill to start operations will be the remelt department where ingot is prepared for the rod mill. Work in this department must necessarily start in advance of rod mill operations in order to build up a supply of billets. Initial shipments of ASCR (aluminum cable steel reinforced) and all aluminum cable will begin in July.

Initial orders will go to REA-financed Co-ops, U. S. Bureau of Reclamation, Bonneville Power Administration, other power projects, and public and private municipal utilities from coast to coast.

The completed Newark plant will have an annual capacity in excess of 100,000,000 pounds of electrical conductor material. The new mill together with existing plant equipment will give Permanente facilities for the production of a wide range of aluminum wire as well as rod, bar, and structural shapes up to a maximum of eight inches in diameter. Although original plans call only for the production of wire and cable, the company expects to manufacture a number of related products within the next year.

Okonite Opens New Dallas Office

A NEW office has been opened by the Okonite Co., manufacturers of insulated wires and cables, in Dallas, Texas, at 1505 Tower Petroleum Bldg., with Otis W. Herring as manager.

Mr. Herring, formerly in the company's Birmingham office, will be assisted by Sam K. Dick, sales engineer, who has been Okonite's Texas representative for the past 20 years.

The Dallas office will be under the supervision of the Birmingham district.

ELECTRIFICATION AWARD—L. L. Koontz, Appalachian Electric Power Co., Roanoke, Va., accepts the Thomas W. Martin Rural Electrification Award for his company at the Edison Electric Institute Sales Conference held recently at Chicago. Left to right, are H. M. Sawyer, chairman, EEI Prize Awards Committee; E. C. Easter, Alabama Power Co., representing Mr. Martin; and Mr. Koontz.

G. E. Forms New Sales District

ESTABLISHMENT of a new sales district and the appointment of two district sales managers have been announced by Fred F. Harroff, general manager of General Electric's Lamp Department. The changes became effective June 1.

The new district, to be known as the South Central Sales District, will have its headquarters in Memphis, Tenn. It brings to 30 the number of sales districts operated by the Lamp Department.

George Ellis

Establishment of the new district is expected to help integrate the Lamp Department's sales organization more closely, providing closer customer relations and more efficient service, according to Mr. Harroff. It involves all of Mississippi, southeastern Louisiana, eastern Arkansas, and western Tennessee.

Named to head the new sales district is George Ellis, who now is a member of the sales organization of the Southeastern Sales District, with headquarters at Atlanta, Ga. Mr. Ellis is stationed at Birmingham, Alabama.

Also appointed to a sales district managership is Robert V. Corning, who will head the Ohio Valley Sales District, with offices in Cincinnati, Ohio. Mr. Corning is being transferred from Lamp Department's General Sales Division at Nela Park. He will replace W. E. Davidson, who is being transferred to Nela Park to head up original installation sales.

A native of Birmingham, Mr. Ellis joined General Electric's Lamp Department at Nela Park in 1930, and became a salesman at Detroit in 1931. He was transferred to the Southeast-

ern Sales District at Chattanooga, Tenn., a year later, and has been associated with that district since that time. He is a member of the Illuminating Engineering Society.

Mr. Corning, a native of Austinburg, Ohio, joined General Electric at Nela Park in 1934. He served as salesman with the Buckeye Sales District in Cleveland until 1948. Since that time he has been in charge of a sales training program at Nela Park.

Examining Board Named in Nashville

A CITY BOARD of electrical examiners has been appointed by Mayor Thomas L. Cummings of Nashville to decide qualifications of persons engaged in electrical contracting.

The board is composed of W. L. Sadler and J. B. Holt, electrical contractors; Herman Potts and Jewell Wright, journeyman electricians; and Adolph Friedman, electric appliance dealer. Terms of board members are unlimited.

The city code states that the board of electrical examiners "shall pass upon the qualifications of all persons and all employees and officers of firms and corporations engaged in electrical contracting." All persons engaged in doing business under provisions of the city electrical code are covered by the act. The act also provides that the board shall draw its own rules and regulations for carrying out its duties.

Councilman Joe Sadler has introduced a bill in city council creating three additional positions of assistant electrical inspectors in the city building department. There are now only two inspectors.

Underground System Planned for Jackson

A DOWNTOWN business district electric system as modern as that found in other metropolitan centers will soon be provided in Jackson, Miss., through a new underground electric distribution system scheduled for completion early this year, according to Tom W. Crockett, vice-president and Jackson division manager for the Mississippi Power & Light Company.

Designed to offer improved and extended service in the heavily congested downtown business area, the project calls for the elimination of unsightly overhead poles, wires and transformers by placing the area's distribution system underground.

The new underground distribution system was made necessary by the inadequacy of the conventional overhead system in providing the service needed by the greatly expanded business area.

Power officials said plans call for the installation of 52 underground transformers with an over-all capacity of 25,000 kva—only slightly less capacity than Mississippi Power and Light Company's new Rex Brown station recently dedicated in Jackson.

National Lighting Conference Announced

NEW DEVELOPMENTS in every phase of lighting will point up the 1949 National Technical Conference of the Illuminating Engineering Society when it convenes at the French Lick Springs Hotel, French Lick, Ind., September 19 to September 23.

The relation of light and color, light sources, street and highway lighting, and residential lighting, as well as general lighting techniques, will be discussed by authorities in the field of illumination science and engineering.

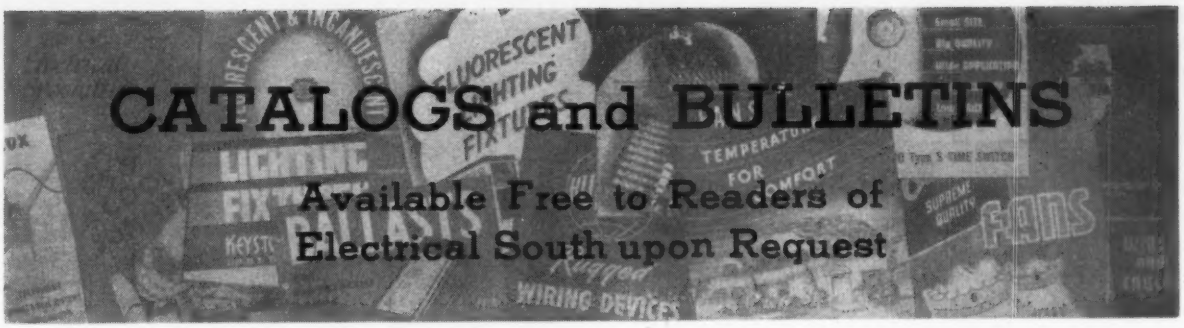
On Monday, September 19, the Lighting Service forum, under the direction of J. M. Stedman, will present the story of lighting applications in factories, homes, offices, schools, and stores. The regular conference program will start on Tuesday morning with approximately 30 speakers presenting papers during the technical sessions, which close Friday afternoon, September 23.

L. E. Tayler, of the Detroit Edison Co., president of the Illuminating Engineering Society, which numbers approximately 7,000 members, will preside at both the Opening Session and at the Conference Banquet.

In contrast to the usual urban convention, the French Lick resort affords a casual unhurried atmosphere, with opportunities for sports activities and relaxation between technical sessions. According to R. F. Hartenstein, chairman of the National Technical Conference Committee, over a thousand guests and members are expected to attend this conference.

R. W. Butts, chairman of the Conference Executive Committee, states that with rooms and meeting halls all under one roof in the hotel building, accommodations will be ideal and closer fellowship afforded.

HOME WIRING EXPOSED—W. P. Zerbe, manager of circuit device sales, Standard Control Division, Westinghouse, explains the Westinghouse home wiring and circuit demonstration which was featured recently at the National Homebuilder's Exhibition in Chicago. When the circuit on the wall is overfused, attached heaters overload and the circuit and a bare wire becomes red hot. When a circuit breaker is added, however, the line is disconnected before the small wire can overheat. Also demonstrated is the poor performance of a lamp, immersion heater and electric motor (attached to a scale) when too small a wire or too long a run is used. These demonstrations show customers the tamperproof protection of a circuit breaker and point out how adequate wiring saves money every day.



(Additional items will be found on page 72)

250—Electrical Apparatus. The Trumbull Electric Mfg. Co., Plainville, Conn., has recently issued a condensed general catalog, "Trumbullist", which gives complete information on electrical control apparatus.

251—Infrared Lamps. An 8-page folder, "Drying Problems Made Easy", listing the advantages of the Dritherm Carbon Lamps is available from the North American Electric Lamp Company, 1041 Tyler St., St. Louis, Mo. This folder includes a complete description of how Infrared Radiant Energy with Nalco Dritherm Carbon Lamps provides fast, effective heat.

255—Paragon Timers. A folder of up-to-date bulletins on available timers and their prices is offered by the Paragon Electric Company Two Rivers, Wisconsin, manufacturers of electrical equipment. Such items as industrial timers, self-lubricating time switches, and many others are described and illustrated in this folder.

257—Lighting Equipment. This revised 8-page condensed catalog, No. 945, describes the company's line of engineered lighting and control equipment for schools, theaters, hospitals, churches, and stores, etc. Specifications, engineering details and list prices are included. This catalog is available from Hub Electric Co., Department "ES", 2219 West Grand Ave., Chicago 12, Illinois.

259—Electrical Equipment. The latest edition of the Federalog has just been issued by Federal Electric Products Co., 60 Paris St., Newark 5, N. J. This profusely illustrated catalog contains complete details of Federal's newest motor controls, safety switches, service equipment, circuit breakers, panelboards, switchboards, and busduct.

261—Electric Motor Parts. A 112-page illustrated catalog of electric motor and controller parts is now available from The Reading Electric Company, Inc., 102 Park Row, New York 18, N. Y. This bulletin lists everything used by the electric motor repair shop.

262—Fluorescent Lighting. Smithcraft Lighting Division, Chelsea 50, Mass., has just issued an interesting series of specification sheets, each portraying a single Smithcraft fluorescent fixture and providing pertinent technical data to assist engineers, jobbers, contractors and purchasing agents. These sheets are available upon request.

264—Time Switch. Sangamo Electric Co., Springfield, Ill., offers their 4-page Bulletin 1050 fully describing the new, exceptionally small Type S Time Switch.

274—Electrical Devices. Catalog No. 38, issued by the Efficiency Electric Co., East Palestine, Ohio, contains a listing of the electrical devices for conduit, wire, and cable suspension manufactured by this company.

276—Lighting Fixtures. A complete line of decorative residential lighting fixtures as well as an outstanding commercial fluorescent series are described in Catalogs No. 48 (Residential) and No. VF-48 (Commercial). Copies may be obtained from John C. Virden Co., 5905-6103 Longfellow Ave., Cleveland, Ohio.

280—Electrical Maintenance. Available immediately is a new 48-page reference and instruction booklet issued by the Anaconda Wire and Cable Co., 25 Broadway, New York 4, N. Y. Entitled "Wire Ahead," this book covers a variety of problems encountered in electrical system maintenance.

281—Wiring Connectors. A complete new catalog on various new wiring connectors has been issued by the Jasper Blackburn Products Corp., St. Louis. The catalog also contains much detailed information not heretofore available to users.

282—Cords and Cables. The Simplex Wire & Cable Co., has just issued an attractive 68-page catalog giving descriptions of the Simplex-Tirex portable cords and cables. Complete information on splicing is also included, as well as a pictorial section on applications. It may be obtained from 79 Sidney St., Cambridge 39, Mass.

284—Electrical Specialties. A catalog, No. 43, showing their complete line of electrical specialties is available from McGill Mfg. Co., Inc., Box 650, Valparaiso, Ind. Included is descriptive data on the many sizes and types of Levolier switches and McGill portable and vaporproof lamp guards.

286—Porcelain Insulators. A loose-leaf catalog of porcelain insulators and pole line hardware is available from Illinois Electric Porcelain Co., Macomb, Illinois. In addition to the pages of product specifications, the catalog contains a special section of useful tables and a copy of the AIEE Standards on Insulator Tests.

287—Condensed Lighting Catalog. This 8-page descriptive bulletin issued by Pittsburgh Reflector Co., 450 Oliver Bldg., Pittsburgh 22, Pa., describes in detail the most popular items in the Pittsburgh line of fluorescent and incandescent lighting equipment. Each item is fully illustrated and cataloged, and many are accompanied by installation drawings.

290—Receptacles, Plugs, and Connectors. Russell & Stoll Co., Inc., 125 Barclay St., N. Y., has released a bulletin No. EL-4-46, describing the new Ever-Lok receptacles, plugs and cord connectors for 30 amperes, 440 volts, a-c. Typical uses are for heavy duty industrial purposes.

296—Building Wire. A fully illustrated 48-page booklet called "Hazard Building Wires" is now available from the Hazard Insulated Wire Works Division of The Okonite Co. The manual contains complete engineering information on the many types of wire and cable required by the building industry. Tables showing dimensions and weights of all cable constructions are included.

ELECTRICAL SOUTH
806 Peachtree St., NE **June, 1949**
Atlanta 5, Ga.

Gentlemen:

Please send me bulletins indicated below.

No..... No..... No..... No..... No.....
(Print Plainly)

Name..... **Title**.....

Company.....

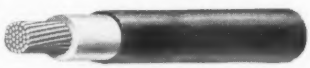
Address.....

City & State.....

must your cable

Standardize and Save

FLAMENOL—in all standard 600-volt constructions—is one of six modern cables mass-produced and authorized for warehouse stock. Standard designs permit quicker delivery and a lower price than special types. Each offers advantages in its recommended applications.



CORONOL®-GEOPRENE For high-voltage power distribution. Has superior resistance to heat, corona, and aging. Bulletins GEA-1788, GEA-4848.

VERSATOL®-GEOPRENE For low-voltage distribution and branch-circuit wiring to motors and controls. Resists moisture, neat, and aging. Bulletin GEA-4848.

INTERLOCKED-ARMOR For overhead power distribution throughout the plant. Needs no conduit, speeds installation. Bulletin GEA-4507.

VARNISHED-CAMBRIC LEADED For high-voltage feeders, distribution in underground ducts. Ideal for heavy loads in wet locations. Bulletin GEA-2623.

GEOPRENE CONTROL For connection between control panels and portable push-button stations on large machines. Resists rough handling and repeated flexing.

. . . stand up under cutting oils ?

Chemically inert G-E Flamenol® cable safeguards your low-voltage plant circuits against oils, cutting fluids, acids and alkalies.

. . . cut down fire hazards ?

Flameproof Flamenol cable can't spread a fire, because it won't support combustion.

. . . save installation time ?

Flamenol cable strips cleanly to simplify terminating, and its hard, sleek finish makes pulling through raceways easy.

. . . fit in small space ?

With no added covering needed, Flamenol cable's smaller diameter saves space, makes for neater wiring.

It will if it's

Flamenol Cable

made only by General Electric

Wherever your plant wiring calls for low-voltage cable that's long-lasting under conditions as tough as they come—that's the place for G-E Flamenol cable. Thermoplastic-insulated Flamenol cable, made by General Electric, is completely controlled in the making, from raw material to finished product. That's why you get the uniform quality that assures greatest service reliability. For more information, write for Bulletin GEA-4352. or call your nearest G-E office. Section W27-624, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

NEW

Monarch
HEAVY DUTY
RENEWABLE TYPE FUSE

WITH HEAVY BRIDGES OF BRASS

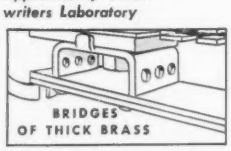
DESIGNED TO WITHSTAND TEMPORARY EXTRA HEAVY OVERLOADS

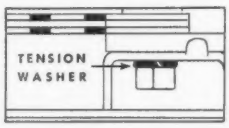
Approved by Underwriters Laboratory

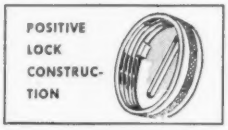
Cool . . Truly Aligned . . Maximum Use of Brass . . . Adding up to Lower Power Waste Than Ever Before! And Here's How!

This new heavy duty fuse incorporates many time-tested Monarch features. The newest, — thick brass bridges widely separating the terminals from the fiber bar and made with ventilating holes—allow ***maximum dissipation of any internal heat.***

The Monarch method of locking these bridges securely to the terminals and fiber bar, together with Monarch's positive lock construction and compressed tension washers, insures ***permanent true alignment.***

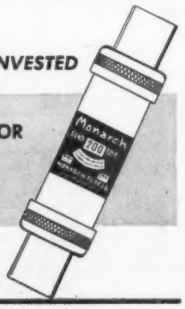






. . . IMPROVED SERVICE PER DOLLAR INVESTED

SPECIFY Monarch FOR SUPERIOR FUSErvice



MONARCH FUSE CO., LTD.
113 E. First Street Jamestown, N. Y.

NEW PRODUCT NEWS

Attic Fan

A NEW low cost, "all in one package" attic fan was recently introduced by the Viking Air Conditioning Corp., 5600 Walworth Ave., Cleveland 2, Ohio.

This 22-inch three-bladed fan is rated at 3100 cfm and belt driven by a ¼ hp. 110 volt, 60 cycle, ball bearing motor. It is particularly suited,

the manufacturer states, for GI homes, ranch type homes, cottages and motels.

Special features of the 622 Viking Attic Fan include an automatic electric timer built into the fan casing which eliminates the installation of a wall switch leg, and hinged automatic ceiling shutters that can be lowered, making it possible to clean and service the fan and shutters from the floor below.

The "Package" is shipped complete with all material necessary for installation—attic fan, resilient mounting, felt sealing strips, automatic ceiling shutter, automatic electric timer, safety 'fusible link," and illustrated instructions.

•

Transformers

ALL THE advantages found in the single-phase CSPB distribution transformers for banked-secondary operation are offered in a new line of three-phase CSPB transformers announced by the Westinghouse Electric Corporation.

Designed for four-wire 208Y/120-volt secondaries, the new transformers make possible three-phase banked-secondary operation without the possibility of cascading or reverting to radial operation found previously when banking conventional transformers. The new, three-phase transformers when used in banked-secondary systems reduce light flicker resulting from motor loads, increase service reliability, and reduce necessary installed capacity.

Installing electrical conduit?

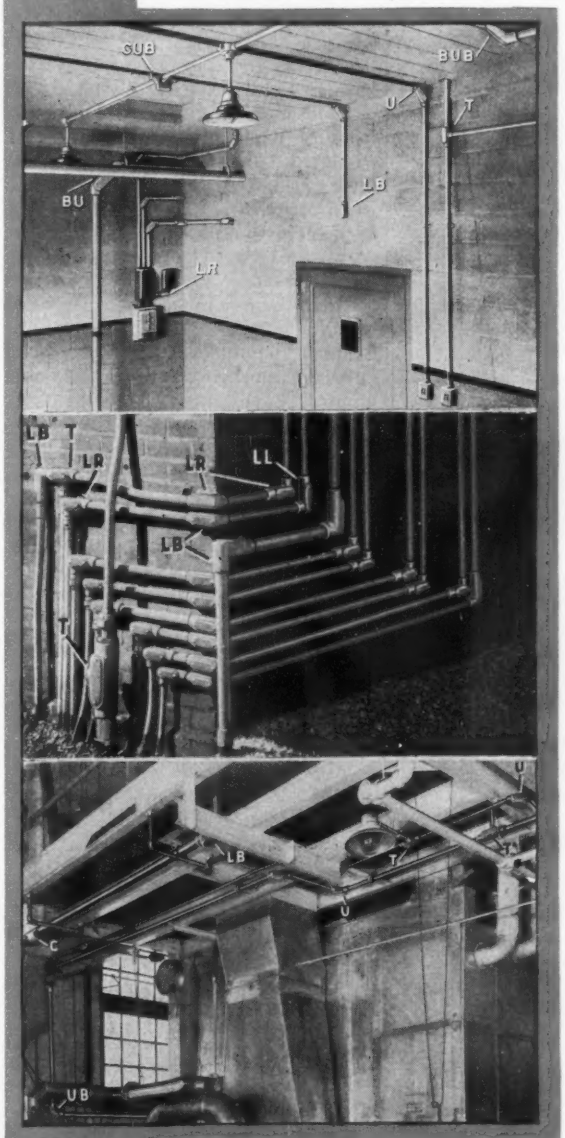
It's much **easier** with

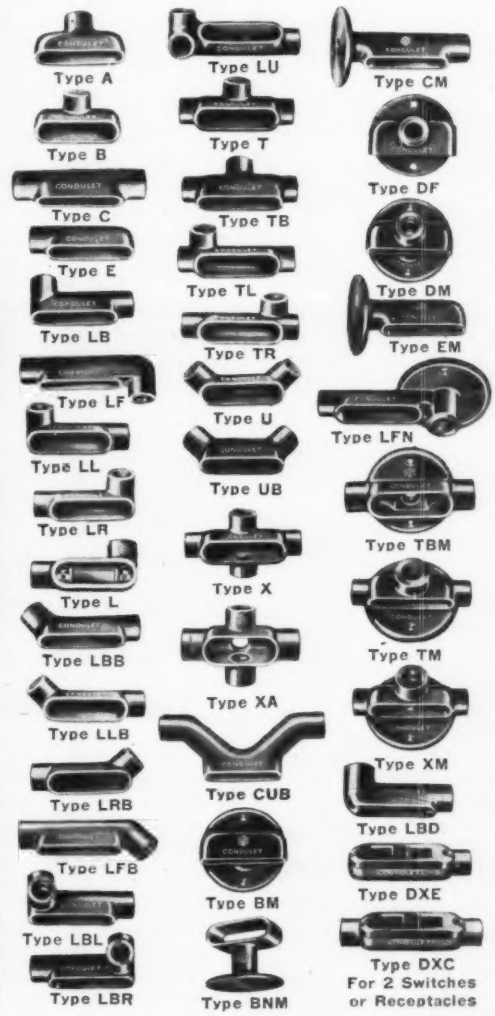
Obround CONDULETS*

because they are so handy and there are

49 different types

A wide variety of interchangeable covers and wiring devices with Crouse-Hinds' exclusive Wedgenut Fastener; sizes to fit ½ to 6-inch electrical conduit.





A Nationwide Distribution Through Electrical Wholesalers

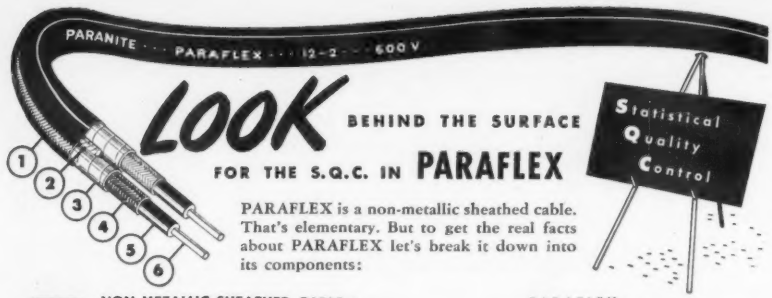
* *CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.*

The complete Obround Series, together with 15,000 other items for the electrician, is listed in Crouse-Hinds Condulet Catalog.

CROUSE-HINDS COMPANY
Syracuse 1, N. Y.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Indianapolis — Kansas City — Los Angeles — Milwaukee — Minneapolis — New York — Philadelphia — Pittsburgh — Portland, Ore. — San Francisco — Seattle — St. Louis — Washington. *Resident Representatives:* Albany — Atlanta — Baltimore — Charlotte — New Orleans — Richmond, Va.
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS



LOOK BEHIND THE SURFACE FOR THE S.Q.C. IN PARAFLEX

PARAFLEX is a non-metallic sheathed cable. That's elementary. But to get the real facts about PARAFLEX let's break it down into its components:

	NON-METALLIC SHEATHED CABLE	PARAFLEX
1	OUTER BRAID	*Plus* Paranite developed moisture resisting, flame retarding saturant.
2	RIP CORD	*Plus* its careful selection for size to properly fill interstices between conductors... and for adequate strength to shear the outer sheath.
3	PAPER WRAPPER	*Plus* careful selection of the quality of the paper, which is scientifically treated to resist moisture... wrapped at a carefully controlled tension.
4	CONDUCTOR BRAID	*Plus* the correct tension at all times, insuring adherence between insulation and braid.
5	RUBBER INSULATION	*Plus* continuous laboratory tests of the compound.
6	COPPER CONDUCTORS	*Plus* constant analysis of the quality of the copper... constant check on gauge.

and it lays flat... Won't squirm or twist... It's clean to handle... It's plainly marked. *IT'S PARAFLEX!*

IF IT'S PARANITE IT'S RIGHT!

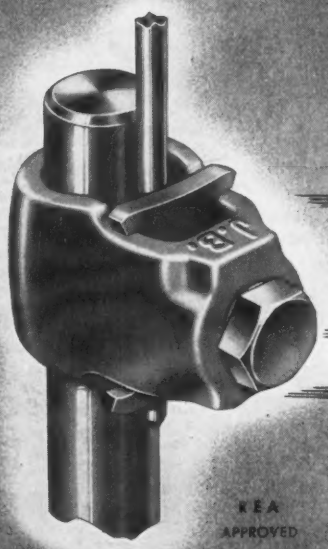
DISTRIBUTED THROUGH WHOLESALERS

PARANITE WIRE AND CABLE

Division of ESSEX WIRE CORPORATION · FORT WAYNE 6, INDIANA

ELECTRICAL WIRES AND CABLES BETTER THAN CODE REQUIRES

WAREHOUSES* AND SALES OFFICES: *Atlanta, Ga.; Boston, Mass.; *Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; *Detroit, Mich.; *Kansas City, Missouri; *Los Angeles, Calif.; *Newark, N. J.; Philadelphia, Pa.; *Portland, Oregon; *St. Louis, Missouri; *San Diego, Calif.; *San Francisco, Calif.



BLACKBURN Hi-Strength GROUND ROD CLAMP

3 Big Features!

Truly High Strength! Body and set screw are made of DURONZE III—50% stronger than other alloys. Hence, clamp will not distort—will stay tight.

A Heavy Clamp in the Lowest Price Range.

Pressure Bar Aligns Wire with rod and distributes pressure of set screw over a greater length of wire, making a very low resistance connection.

REA APPROVED

For better performance specify BLACKBURN Hi-Strength Ground Rod Clamps

BUILDERS OF QUALITY PRODUCTS FOR 15 YEARS

JASPER BLACKBURN PRODUCTS CORP.

FIRST, MADISON & CLINTON STS. • ST. LOUIS 6, MISSOURI

Attic Fan Plenum Chamber

LESS THAN 10 per cent of the home ventilating market has been sold, according to a Curtis Publishing Company survey. It points out that approximately 4,136,000 dwellings exist without any type of mechanical cooling or ventilating. Add to this a forecast of 800,000 new homes to be built in 1949, and the potential in this field becomes staggering.

Recognizing that the electrical contractor is the logical man to sell attic fans, and that the engineering of the installation plus the cost has formed an obstacle which has resulted in the loss of thousands of fan sales, the C & H Air Conditioning Fan Company, Inc., of Atlanta, has resolved the problem to its basic fundamentals and decided that two things were needed to boost the sale of attic ventilators in the domestic field: a method of installation which would relieve the contractor of the engineering, and a prefab plenum chamber which would reduce carpentry to an absolute minimum.

The result is the Shovelaire Canvas Plenum Chamber, developed by C & H Air Conditioning Fan Company, according to William S. Sullivan, sales manager of the company.

The unit is constructed of canvas, which is flame-proof, and has a frame-

work or skeleton of iron reinforcing rods. This chamber is made in four standard sizes for 30-inch, 36-inch, 42-inch, and 48-inch fans. These insure perfect fit and proper size throughout the range of fan sizes.

According to the manufacturer, the Shovelaire Canvas Plenum Chamber is light in weight, simple to install, and easy to handle. It may be used in connection with automatic ceiling shutters or with grill and trap door. All screws, fasteners, and so forth, necessary for an installation are furnished in one package with the plenum chamber and complete instructions. According to the manufacturer, more than 100 installations have been made in private homes at savings on installation cost from 30 per cent to 40 per cent below the cost of conventional type installations.

NAMES IN THE NEWS

W. N. (Bill) Kennon has been appointed sales representative of the **Mitchell Manufacturing Co.**, Chicago, covering the states of Georgia, Florida, and Alabama.

Mr. Kennon will work with Mitchell distributors in these states in a

W. N. Kennon

service capacity, conducting group sales meetings and working with distributor salesmen individually on behalf of the company's products. Mr. Kennon has had 15 years experience in the Southeast, actively promoting the sale of lighting equipment.

•

E. C. Easter, formerly manager of the Rural and Towns Division, has been made sales manager of the **Alabama Power Co.**, succeeding **W. M. Stanley**, retired.

J. R. Lester, manager of the Industrial Development Division of the company since 1943, has been made manager of the company's Rural and Towns Division, assuming the former duties of Mr. Easter.

E. C. Easter

GEDNEY

MALLEABLE IRON

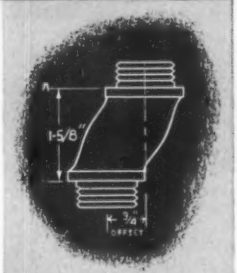
OFFSET CONDUIT NIPPLES

CUT INSTALLATION TIME

PERMIT BOX ALIGNMENT

Here are the fittings you have so often needed to simplify the job of box alignment. They are not only easier and faster to use but also make neater and better installations where box knockouts do not line up. Use GEDNEY Malleable Iron Offset Nipples when distribution boxes, cabinets, pull boxes, switch enclosures, etc., are ganged together and you will be able to line them up in perfect order. Then, too, when conduit stubs emerging from concrete are out of alignment, a GEDNEY Offset Nipple will often straighten out the job.

Send for samples and prices on these tough Malleable Iron GEDNEY Fittings — the only Fittings rustproofed and time protected by GED-O-LITE finish.



GEDNEY MALLEABLE IRON OFFSET CONDUIT NIPPLES Are furnished in six sizes — ½", ¾" 1", 1¼", 1½", and 2". All sizes have a ¾" offset and 1⅝" distance between shoulders for uniform spacing.

GEDNEY ELECTRIC CO.

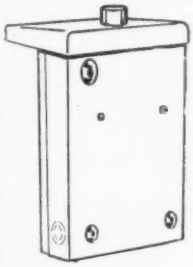
GENERAL OFFICES: RKO BLDG., RADIO CITY, NEW YORK 20, N. Y.

FOUNDRY, FACTORY AND SHIPPING POINT • TERRYVILLE, CONN.

Protection for
METERS and METERING CONNECTIONS WITH
KEES Outdoor Meter Boxes

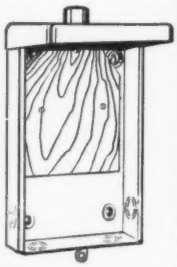
Designed to give *complete* protection, and to insure quick installation and servicing of outdoor meters.

WEATHERPROOF
Safety



All cover joints overlap. Top cover is a solid one-piece stamping . . . no joints to allow leaking.

TAMPERPROOF
Safety



Front cover is held in place by concealed lugs and a latch which may be sealed or padlocked. Attempts at tampering are easily detected.

PROTECTION is the keynote of KEES Outdoor Meter Boxes. Select the boxes you need from four standard sizes, all with the exclusive KEES safety features.

WRITE DEPT. ES-1 FOR FREE CATALOG

F. D. Kees Manufacturing Co.
BEATRICE, NEBRASKA

"SINCE 1874"

H. Neeley Henry, who has been assistant manager of the Industrial Development Division, becomes its manager.

Widely known in Alabama and elsewhere for their assistance and successful efforts in industrial development, both Mr. Lester and Mr. Henry are long-time employees of Alabama Power Co. Mr. Lester began his employment in 1919 as a member of a maintenance crew, and since then has served as district manager at Talladega, division sales supervisor, and merchandise sales director.

Mr. Henry joined Alabama Power Company in a minor capacity in 1924, then served as assistant division superintendent at Huntsville, district superintendent at Demopolis, and district manager at Ozark and Jasper. He has been associated with the company's industrial development work since 1937, and became assistant manager of the department in 1948.

•

Ellis C. Yale has been appointed a special assistant by **Joseph H. Ward,** executive vice-president, **Noma Electric Corp.**

Mr. Yale was formerly associated with the Lamp Division of the General Electric Co. He has had intensive sales development experience in both the automotive and aviation fields.

S.E.E. Annual Conference

(Continued from page 36)

stock are quite different now compared with previous years. There are not enough wealthy people to take all common stock offerings. Many more people are going to have to be contacted and a more effective selling job done. He warned the group that effectiveness in selling common stock may have a substantial effect on what happens to the light and power industry in the future.

A. F. Tegen, president of General Public Utilities Corp., advised the conference that there would be difficulty in raising the equity portion of the large external capital requirement of the light and power industry unless it is successful in correcting certain things of which investors seem to be chary.

"Continued growth of our industry is assured," said Mr. Tegen, "but if

R&S LIGHTING FIXTURES

VAPORTIGHT . . .
EXPLOSION-PROOF . . .
DUST-TIGHT . . .

For safe and correct lighting in hazardous areas, count on R & S Lighting Fixtures to stand up better . . . to deliver long-term, top performance . . . because of illumination engineering ingenuity and over forty years' manufacturing know-how.

Write, on letterhead for new catalog H-47-11.

Scientific design with high reflection factor provides maximum, safe, controlled lighting . . . maintenance-free. Standardized base common to all sizes. Interchangeable reflector globe assemblies of various capacities. Simplified mounting without disturbing electrical connections; with a variety of conduit arrangements in one standard base. Underwriters' laboratories approved.

Sold Through Electrical Wholesalers
SALES OFFICES IN PRINCIPAL CITIES

SINCE 1902
RUSSELL & STOLL COMPANY, INC.
Precision-Built Electrical Equipment
125 BARCLAY STREET, NEW YORK 7, N. Y.

we fail to meet the demands made upon us or fail to promote the indicated growth, you can be sure that our tenure of office will not be long."

Can this growth be financed, Mr. Tegen asked. "If this effort breaks down, and expansion lags as a result, we will be confronted with a first class sheriff's sale of our power plants and transmission lines to the Federal Government and of our distribution systems to municipalities and co-ops.

"Most companies will be able to find a buyer for all the bonds they may wish to sell at satisfactory rates of interest. Such rates have gone up in the last two years and may go higher—especially is this true of the junior grade bonds.

"The ease with which bonds may be sold may be a temptation for an individual company to resort to bond financing where stock financing is indicated. You will be sorry if you follow this urge.

"The relatively high dividend rates on preferred stocks at the moment and the other inducements required may deter you from proceeding with the sale of preferred stock when such sale is indicated. Think twice before you yield to this urge. I rather think that the higher preferred stock dividend rates will turn out to be beneficial to us in the long run since such dividend rates as you do pay affect the rate of return which may be allowed in a rate case proceeding."

Speaking of the situation with respect to common stock, Mr. Tegen said, "It is not a wholly satisfactory story. We have been in a bear market for utility commons since the summer of 1947, if judged by the performance of industrial stock. I am delighted to note that at the moment the situation seems to be righting itself.

"I am convinced that we must increase the earnings and dividends for our commons, or we will not get the necessary equity capital on a basis that is equitable to present stockholders or satisfactory to management. How to do this? Economies? Well, you have just about done all you can there. Greater efficiencies? These are beginning to roll along. What about rate increases? Why, of course! This is the hard way, and we had better do it where we can, for if we don't, and as a result cannot get equity capital on a satisfactory basis, the fellow all of us dislike will provide such capital!"

Gwilym A. Price, president of the Westinghouse Electric Corp., and Richard W. Courts, of Courts and Co., Atlanta, were other speakers who

THE RIGHT APPROACH to *Surface Wiring*

with "UNION'S" *New*

NO. 5020 SHALLOW BOX

GREATER FLEXIBILITY

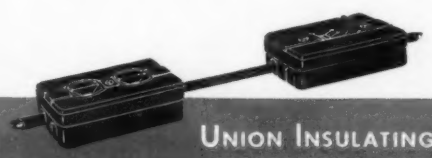
MINIMUM STOCKS

A COMPLETE LINE

STANDARD WIRING METHODS

1. Box dimensions to fit Standard Handy Type Box Covers.
2. Designed to accommodate all but the largest bodied Duplex Receptacles and Toggle Switches.
3. Color and shape blend attractively with the "Union" line of Handy Box Covers.
4. For use with Nos. 12 and 14 Non-Metallic Sheathed Cable.
5. Installed with standard wiring methods. Thus working parts protected from dust and moisture by two insulating housings.
6. Ideal for farm buildings, garages, attics, basements, etc. Approved by Underwriters' Laboratories, Inc. and R. E. A.

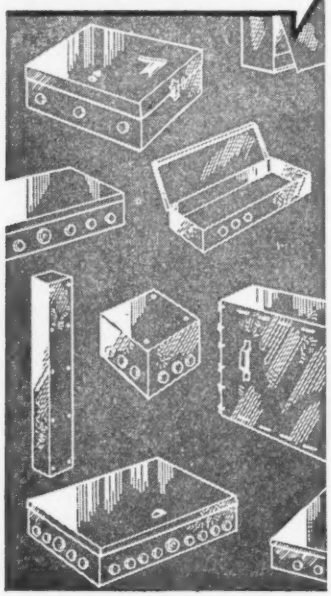
*Obtainable from your regular stock.



UNION INSULATING CO., INC.
PARKERSBURG, WEST VIRGINIA

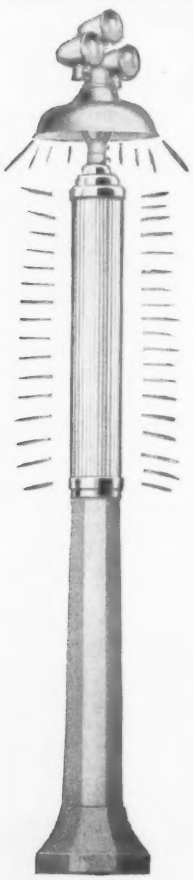
"UNION" PRODUCTS
Weatherproof Pigtail Sockets
Ever-Ready Pin Type Sockets
Insulated Conduit End Bushings
Insulated Entrance Bushings
Bakelite Outlet Boxes & Covers
Bakelite Lamp Receptacles
Hay Mow Lighting Fixtures
Pull Chain Lampholders

A NAME GROWING BIG —ELECTRICALLY



B & C METAL STAMPING CO.

NEW ADDRESS — 590 MEANS STREET N. W. — ATLANTA, GA.



The Sensation of the Day!

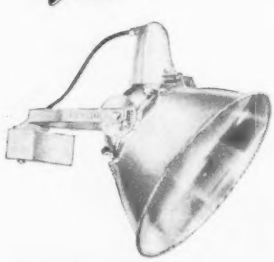
REVERE PYLON-LITE

The greatest light standard ever designed for Service Station use. Literally "pulls" the customers in. Can be had with any combination of top floods — Aluminum or Colored Porcelain. Also available with Reel-Wells and with air and water facilities. Pylon-Lite Adapters also available to convert your present 2″ to 5″ dia. island light poles. Write for special bulletin.

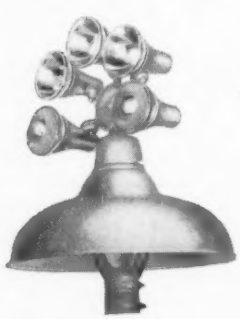
The complete line of REVERE Equipment for Service Station, Airport, Sports, Industrial and Marine Lighting is characterized by DESIGN, QUALITY, and WORKMANSHIP.

Revere ELECTRIC MFG. CO. CHICAGO, U.S.A.

TODAY—when your prospects again approach the goods you offer with searching eye and "Show Me" attitude, it is good to have VOLUME BUILDERS like these shown here!



New 18″ and 20″ Rear Service Flood for long range lighting. Every Sports Lighting Job. Railroad Yard, Golf Driving Range is a prospect. Has many unusual features for Safety, Ease of Wiring and Maintenance.



AREA LIGHT with 5-light top cluster—offers many possibilities to increase intensities wherever desired. Available in aluminum or colored porcelain.

WRITE FOR COMPLETE CATALOG.

REVERE ELECTRIC MFG. CO.

6005 Broadway **Chicago 40, Ill.**

discussed the capital requirements of the light and power industry.

"American business is now operating in a climate so hostile to private enterprise that it is unable to obtain its capital requirement from the investing public," said Mr. Price.

"The Federal Government's increasing drive for more controls over our economy must be curbed to avoid traveling down the road toward socialist planned economy. If we continue down that road, we will be the last to travel it, and there will be no other nation standing by with its version of the Marshall Plan to bail us out," Mr. Price warned.

The Westinghouse president pointed out that in 1929 a long trend was broken and the new capital invested annually per worker began for the first time to go down instead of up. "Now," he said, "the rate of such investment is one-fifth less than it was then."

Emphasizing that venture capital is fast disappearing from the American scene, Mr. Price said that of the nearly $27,000,000,000, of corporate capital expansion in 1948, less than two per cent was paid for by the sale of common stock.

Mr. Courts told the conference that "the critical shortage of risk capital is borne out by the fact that common stocks of sound companies are selling today at substantially less than book values, in many cases at and below net current assets, with no value whatsoever attached to physical properties, management, and good will. The entire capitalizations of many companies are priced in the public market at only two to five times one year's earnings—this at a time when business and profits have been running at an all-time high."

Suggested Remedies

The principal steps necessary to remedy this situation, Mr. Courts pointed out, are: first, government spending should be reduced to a minimum with every dollar of waste and red tape knocked out and, second, the whole Federal tax structure should be completely revamped and should include a maximum surtax rate of 50 per cent. Such a change, in Mr. Courts' opinion, would result in greater initiative and ingenuity on the part of the public to create, to produce, to save and invest, and to own and finance American industry.

Other speakers who appeared on the Conference program included Alfred P. Haake, economic consultant, General Motors Corp., who discussed the prospects for prices and business;

Dr. Edwin R. Henry, of Richardson, Bellows, Henry & Co., Consultants, who discussed scientific personnel tests as an aid to management; L. R. Lefferson, manager, Rate Department, Ebasco Services, Inc., who discussed sound rate structures for the future.

The concluding address was made by Don G. Mitchell, president, Sylvania Electric Products, New York City, who talked on "The Responsibilities of Selling."

People can be sold on the idea that opportunity is more desirable than security. Mr. Mitchell expressed the opinion that the trend on the part of the people to seek security in preference to opportunity is a passing fad. No better way exists to defeat "isms" and to keep our way of life than that of selling progress. Wherever you find salesmen, you find freedom and the degree of freedom enjoyed depends on the quality of the selling done, Mr. Mitchell said.

It was salesmen who built this country and made it great, Mr. Mitchell emphasized. We didn't become the great industrial country—the country having the most telephones, automobiles, power plants, and so on —by *making* things but by *selling* things. The responsibility of selling, he said, is the preservation of freedom.

In the election of officers at the concluding section, S. C. McMeekin, president, South Carolina Electric & Gas Co., Columbia, was named president. Other officers elected included: first vice-president, W. O. Turner, president, Louisiana Power & Light Co., New Orleans; second vice-president, C. B. McManus, president, Georgia Power Co., Atlanta; and third vice-president, M. C. Funk, vice-president and general manager, Appalachian Electric Power Co., Roanoke.

Escape from Socialism

(Continued from page 34)

stantly renewed and built up.

You will observe that in this discussion I have said nothing about the important subject of publicity, local or national. Experience has caused me to appreciate and value their importance, but it has also given me an appreciation of the greater importance of the performance and spirit of an industry or a company. I have found that it is much easier to tell a good news story if you have a good news story to tell. For that reason in this talk I have stressed performance, attitude and character.

From a publicity standpoint, there is a tide in the affairs of a leader, a company, an industry, or even a government agency. When the publicity tide is running against you everything seems to conspire to drown out your voice, and it gets little or no heed. I think I have observed a change in the run of the publicity tide. I and my associates are called upon from many quarters for information for publicity purposes and in recent years we have noted an increasingly favorable attitude toward the electric utilities.

For years the Edison Electric Institute has subscribed to a clipping service to get a representative sampling of newspaper articles and editorials from all over the United States on the electric industry. Fifteen years ago we made a ten weeks analysis of all clippings from the standpoint of favorable, unfavorable, or non-committal to our industry as judged by their probable impression on readers.

CORDelirium Cometh

when cords or plugs fail in the pinch! For sure contact and durability, it's best to feature

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APPROVED BY UNDERWRITERS LABORATORIES

Selected by leading manufacturers . . . why not by YOU

A full line of Flexible Cords for the Repair and Service industry, obtainable through Jobbers and Distributors

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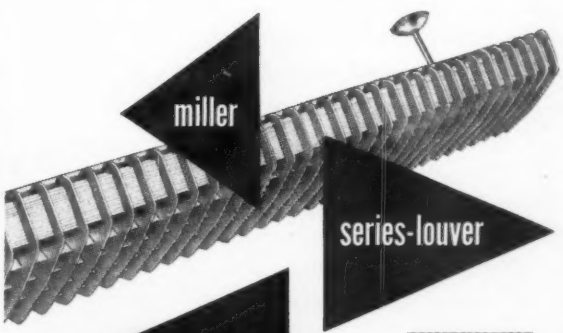

slimline luminaires

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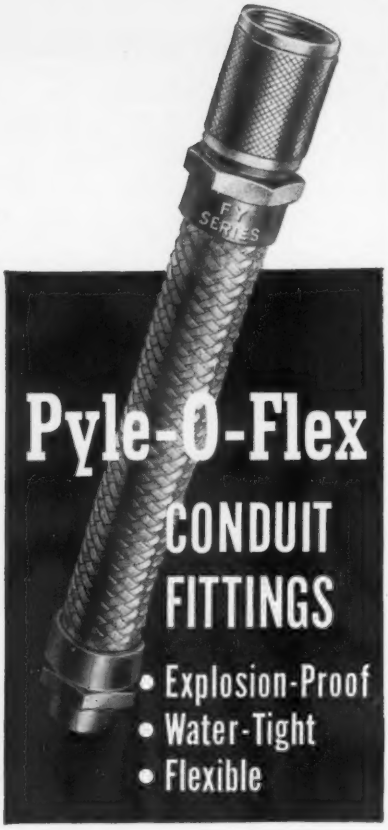
for commercial and industrial interiors

a new high in lighting

New flexibility of application of the 96 in. slimline fluorescent lamp. New simplified installation, operation and maintenance. Write for miller slimline catalog 2G.

THE miller COMPANY
SINCE 1904
ILLUMINATING DIVISION, MERIDEN, CONNECTICUT



Pyle-O-Flex patented flexible fittings allow a neater installation without the troublesome and costly bending and fitting of rigid conduit. They are ideal for wiring of gasoline pumps, explosion-proof floodlights, motors and other equipment in hazardous locations. Also used for watertight installations of many kinds. Flexibility allows for adjustment of lights if necessary after installation. Flexibility also protects connections against motor vibration.

Pyle-O-Flex Explosion-proof flexible fittings are available in a full range of sizes and standard lengths. Can be used with Pylet explosion-proof elbows and unions.

Consult your Pylet Catalog for complete listings.

THE PYLE-NATIONAL COMPANY
SINCE 1892
1354 N. Kostner Ave., Chicago 51, Ill.

The sampling covered better than 30 per cent of the more than 2,000 dailies published in this country. We are now making a similar analysis of today's sampling.

Fifteen years ago the clippings were running 2 favorable to 5 unfavorable. Today, they are running 5 favorable to 3¾ unfavorable. For the Southern States, excluding Tennessee, the ratio fifteen years ago was the same as the national pattern, 2 favorable to 5 unfavorable. For the same states the present survey shows a ratio of 4 favorable to 3½ unfavorable. This very rough check tends to confirm the feeling I have gained from observation and from contact with a good many writers that with the various developments on foot to increase publicity both locally and nationally we shall find, in the years to come, good performance will receive good recognition.

Aerial Cable For Networks

(Continued from page 32)

messenger, the drum containing two small reels of lashing wire rotates around the entire assembly, binding the cables tightly to the messenger. Lashing wire tension is approximately 35 pounds. The drum is rotated by means of friction drive which is actuated by the grooved wheels. The drive ratio of the drum results in a lay of about 16 inches for each lashing wire, but since there are two lashing wires applied 180 degrees apart, the resultant lay is about 8 inches. The lashing wire used was a No. 10 copperweld. Two 325 foot coils of lashing wire are sufficient to lash two 130-foot spans of cable.

Both the spinner and the trolley are pulled from the ground with a rope line arranged that the spinner rides three feet behind the trolley. A truck was used for pulling the spinner and trolley as the heavy cables would have required 8 or 10 men to do the job. A uniform job of spinning heavy cables is difficult to obtain if the spinning machine is stopped for any reason between poles. This is especially true if the pulling tension is released.

To lash the cables, the trolley is first placed on the messenger and the cables laid between the fingers and on the pulleys in the order of desired phase sequence. Gates of the spinner are opened, the spinner placed over the messenger behind the trolley, and cables lifted into place. Lashing wire is tied off temporarily on the messenger with thumb screw clamps. At this point, the trolley and spinner are pulled to the next pole, applying the lashing wires to the cables as it does.

One of the problems encountered in spinning this cable was providing street clearance for traffic while the installation was being made. This was solved by constructing several pulling blocks having large flat surface rollers on which the cables were supported. The blocks were suspended from the messenger by a hook and spaced 6 to 8 feet apart. As the spinner advanced, this train of blocks was pulled ahead until the street crossing was completed.

When the spinner reaches the next pole, the lashing wire is tied off temporarily and enough slack is pulled out of the coils to terminate this wire around the messenger suspension clamps when it is cut. Trolley and spinner are lifted off the messenger by two linemen and passed around the pole, replaced on the messenger, and the cycle repeated. A copper cable hanger is installed about 30 inches each way from the pole to provide additional bearing area for the cable where it dips down 24 to 30 inches to a pole mounted support containing three Burndy 1500 amp moles.

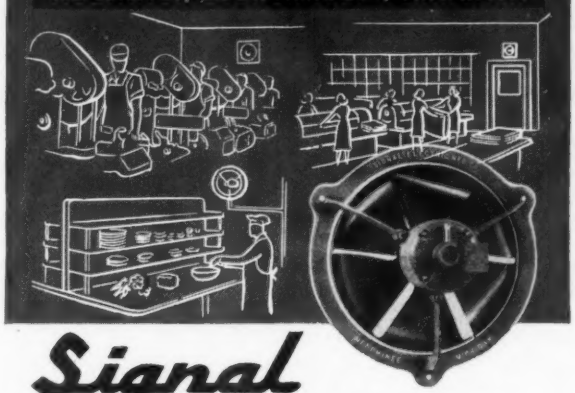
These moles have an opening at each end for secondary cable connection and four openings facing upward into which 4/0 or larger services are connected through molimiters. Underneath the mole there are four openings facing downward into which are connected the supply leads from transformers. All openings not used at this time are plugged with rubber plugs for future use.

All customer services of 4/0 or larger size are brought directly to a mole outlet through a molimiter of size corresponding to size of service conductor. At locations where a number of small customer services radiate from a single H-frame, a run of 500,000 cm or 350,000 cm cable is run from the mole up to a timber near the center of the frame and these smaller services are connected to it.

Cost data on this cable is not yet available as the work has not been completed and all of the charges have not been received. In addition, we are doing a lot of clean-up work and making other changes on this job, and it will be very difficult to separate the actual installed cost of the cable from the rest of the work.

We have, however, made estimates of the material and labor costs of installing this cable. We estimate this cost to be $3.70 per foot. Our estimate for installing three 500,000 cm weather-proof copper wires and a 4/0 copper neutral is $3.50 per foot. How-

Healthful, Economical Ventilation



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Wherever healthful, efficient, economical ventilation is important—at home, in factories, restaurants, laundries —*Signal* Vent Fans are your best buy. *Signal* offers a wide variety of job-tested models, backed by 57 years of fan-building experience. 3-speed controllers and automatic, weather-proof shutters available on all models.

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The KULKA SWIVEL-SOCKET *Spot-liter*

No. 168
With 6 ft. cord
Fully wired
Ready to plug-in
660 W-250 V

Used with Spotlight or Floodlight Bulbs up to 300 Watts

DIE CAST BASE WITH ATTRACTIVE STATUARY BRONZE FINISH

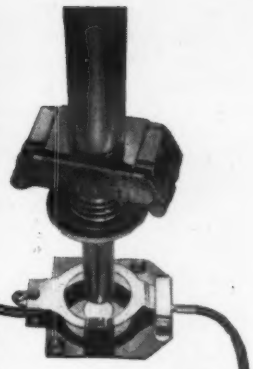
—Has Convenience Outlet

A thoroughly engineered, and handsome appliance. Adjustable to full 90° in ONE OPERATION. The unit is lightweight, yet sturdy—and so steady it won't tip over. Has convenience outlet in base to permit banking without junction blocks and cords. Also has bayonet lock in base to allow use as a pin-up lamp. Ideal lamp for show windows, etc., but also makes fine "sun lamp" or "infra red" lamp for home use.

Write for Circular, or Catalogue of Complete Line

KULKA ELECTRIC MFG. CO.
30 SOUTH ST., MT. VERNON, N. Y.

This centrifugal starting switch from a Hoover Motor has oversize contacts made from pure silver.

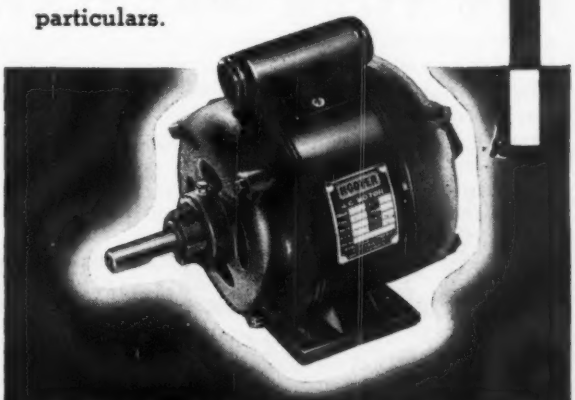


CONTACT!

Dependable and long-lived, this starting switch typifies the engineered efficiency that makes Hoover Motors run smooth, quiet and cool—even in continuous operation on the toughest job.

But then, everyone naturally expects a rugged, reliable motor from the company that has built more than 8 million of the world-famous Hoover Cleaners.

National advertising is telling more and more people every day how Hoover Motors are better for home workshops, garages and farms. You'll be asked for them. So if you don't already stock Hoover Motors, write us today for full particulars.



HOOVER® MOTORS

Made in capacities of ¼ to 1½ H.P.
Product of Kingston-Conley Division
The Hoover Company, North Canton, Ohio

ever, if we install three 750,000 cm weather-proof, open wires with a 4/0 copper neutral so as to have the same voltage drop as the 500,000 cm aerial cable, the cost would be $5 per foot.

An underground system would be many times this cost. We feel, therefore, that even if the improvement in appearance and freedom from trouble were disregarded, this saving justifies the installation of the aerial cable instead of the open wiring.

We believe this installation will operate satisfactorily and as the need arises, we shall install other aerial secondary networks on our system. As a further improvement to the Waco system, we plan some day to replace the 3 open wire circuits in each alley, consisting of 10 conductors with three 5-kv 3-phase primary aerial cables, thereby further improving the appearance of our distribution system.

Planned Maintenance For Lighting

(*Continued from page 27*)

knows just how much light he is getting before the maintenance starts because he is going to show him how much more he is getting after the maintenance starts.

In making the survey he also obtains details of the number of lamps used by the customer, the number of starters, and the number of service calls for ballasts and fixture repair during the past year or the life of the system. He found one customer who used ten cases of lamps in a 10-month period. This prospect used more lamps in ten months than he should have used in five years. The reduction in cost after the maintenance contract started was amazing to the customer.

But there is the customer who is convinced that his porter can do all the maintenance necessary, that he just doesn't need the maintenance service, and that the cost is too high.

For this customer Mr. Smith has made out a blank form which shows the difference in cost between planned lighting and unplanned lighting.

This form when filled out often constitutes a powerful sales argument. Shown here are figures from an actual survey.

The store had a total fluorescent wattage of 3600. They burned a yearly average of 3120 hours, a total of 11,232 kilowatt-hours. The energy cost per kilowatt-hour was 3.5 cents. The dollar cost for the year was $389.12.

By light meter readings at the present efficiency against what the light output should be, and reduced to dollars, he showed the customer that he was losing $159.54 each year. The next step was to compute the number of lamps used each year, number of starters, repairs, and labor charges. Using the customer's own figures he got a maintenance cost of $270.75, which included the amount of cash loss in current cost for which no light was received.

He offered a contract to maintain the lights, furnish all repairs, parts, and labor, with nothing more for the customer to pay, at $14.40 per month, or $172.80 per year, which would give the customer a tangible cash saving of $97.95.

He points out to the customer that they have not taken into consideration the many intangible losses such as lost sales, lamps broken by porter, investment in stock of lamps, broken holders and switches due to inexperience, and the doing without light when lamps go out until their man has time to replace.

GET THE EXACT BRUSH SIZE & BEVEL FOR YOUR MACHINES

HELWIG CUSTOM-MADE BRUSHES are designed to fit your machines at no extra cost.

HELWIG CUSTOM-MADE BRUSHES have no "field variation" — they're shaped precisely at the factory.

HELWIG CUSTOM-MADE BRUSHES end shutdowns while so-called "standard" brushes are cut down.

U. S. Pat. 2,105,038

To find out how you can save money and man-hours in your shop, call the Helwig office near you . . . today.

TRANSERT BRUSHES

Reduce Ring Wear

Longer life for your rotating machines! The transverse graphite insert gives uniform friction characteristics even with low humidity. And you also get even current distribution, better ring lubrication.

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El Paso.....708 N. Piedras St.; Main 7845

HELWIG SPEER

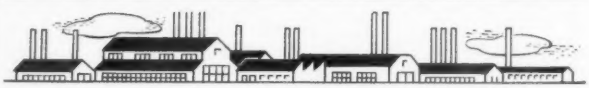
HELWIG CO., Carbon Products
Makers of Multiflex and Transert Brushes

SALES REPRESENTATIVES WANTED

Many southern states now open on exclusive commission basis. Write to

STATE WIRE AND CABLE CORP.

Coxsackie, New York



5/8"x 8' GALVANIZED GROUND RODS

Steel ground rods, with one end pointed for easy driving, and hot-dip galvanized for extra protection. ⅝"x 8' carried in stock ready for immediate shipment. Can furnish other sizes and lengths if quantities sufficient for production.

ATLANTIC STEEL COMPANY
P. O. BOX 1714 DIXISTEEL ATLANTA 1, GEORGIA

When a customer gets to this point he seldom fails to take advantage of the contract maintenance deal.

Each survey and each contract is tailored exactly to the customer's needs. This makes it possible to fit the maintenance program to any size installation of fluorescent lighting.

After the lighting installation is considered to be in proper condition for maintenance under contract. Smith figures the maintenance on the basis of 20 cents per tube. For this amount he washes all fixtures each 90 days, replaces all lamps, starters, and completes all other repairs, including switches that may be defective, and answers all daytime service calls to replace lamps or make repairs.

In actual practice after a contract has been in operation for a few months, service calls disappear and all service needed can be accomplished at the 90-day washing period.

In order to accomplish this, Smith removes fluorescent lamps that show blackened ends and which might possibly operate for a period at reduced efficiency.

After restoring the system to its rated efficiency, Mr. Smith records the light meter readings and shows them to the customer. They are also compared with the readings taken before they took over maintenance.

If at any time a customer considers that his lighting values are down, he calls Smith and they take new readings. In some cases the customer is then convinced that he needs more fixtures or a lighting increase, which leads to a special job.

The customer is an entirely different kind of a person after he has signed a contract, Mr. Smith points out. Where before he would worry along with flickering lights, and fixtures with one or more burned out bulbs, the moment he has signed the contract he wants high efficiency lighting. Since that is what the customer has bought, Mr. Smith is glad to have them make frequent calls.

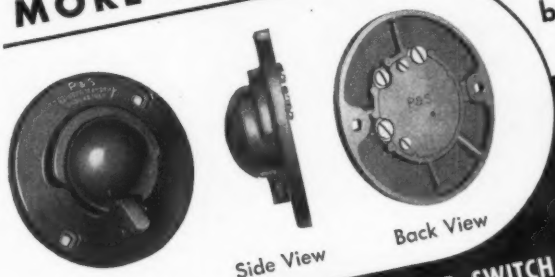
However, he has many customers who hesitate to call when a lamp goes out or where the disturbance in lighting is minor. For these customers Mr. Smith makes special calls to see if the lights are doing what they should, and he impresses on them that they should immediately call when anything is wrong, no matter how trivial.

Mr. Smith finds that there is a great deal of educational work to be done in this field. In selling his service he has found customers who never heard of washing the fixtures regularly. One of the most surprising things he has discovered was that many users

Now

MORE WIRING ROOM

For locknuts, bushings, splices



P&S 1231

THE NEWEST, MOST MODERN BOX COVER SWITCH ON THE MARKET

For 3¼-inch Boxes

A compact, 10 Ampere switch in one-piece bakelite housing which serves as box cover — No *mechanism in box.* Handle in protected position to avoid accidental knocks which can harm switch mechanism. Large terminal screws, ample for No. 12 wire. Pre-loaded contacts for long life, smooth operation. Available in single pole and three-way, T-Rated and Non-T-Rated types, also for oil burner.

Consult your P&S Catalog for complete information.

P & S TRADE MARK

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IN THE HEART OF THE SOUTH

IT'S QUALITY

MANUFACTURERS OF ALUMINUM AND COPPER CONDUCTORS AND ACCESSORIES FOR POWER TRANSMISSION AND DISTRIBUTION LINES.

SOUTHERN ELECTRICAL CORPORATION

MANUFACTURERS ROAD CHATTANOOGA, TENNESSEE

Sangamo Type T Timers

Sangamo Type T Timers are extremely attractive in appearance, may be either wall or switch box mounted, and are fully guaranteed and priced right! While primarily designed for positive attic fan control, these timers are suitable for many other applications. Bulletin 1070S tells about them.

SANGAMO TIME CONTROLS

Sangamo Type S Time Switches

Their high quality, small size and low cost permit the convenience of automatic control in many new time switch applications. Make extra sales by stocking and *pushing* Sangamo Type S Time Switches. They are available for immediate delivery. Bulletin 1053S gives complete information.

The Sangamo Timer is also available in a portable "plug-in" type (Type TJ), rated at 10 amperes or ¼ h.p. at 120 volts A. C., for temporary appliance installations.

* * * *

Sangamo also offers a new portable "plug-in" Time Switch. The Type SJ, rated 10 amperes or ¼ h.p., at 120 volts A. C. Just plug it in and it goes to work.

ST4914

SANGAMO ELECTRIC COMPANY
SPRINGFIELD, ILLINOIS

of fluorescent lighting did not know that there were different types of lamps in addition to daylight and white.

He found customers who had bought cheap fixtures with inferior ballasts. These ballasts were humming so loud as to be annoying in the store or office, and while they complained, they didn't know there was a remedy. In these cases Mr. Smith points out to them that they usually get what they pay for. He tells them of the nationally known brands of ballasts which he uses for replacement. This best-made equipment costs more, he points out, but it works better and lasts longer.

Smith's service cars carry everything needed, including a comprehensive stock of parts. They carry all sizes of lamps, all types of starters, ballasts, and switches. Call backs to the shop are totally eliminated.

Light for Playing Fields

(Continued from page 24)

nation on the playing field. This required the addition of 194 new floodlights. These new units were Crouse-Hinds Type MUA Alzak 20-degree floodlights which were provided with a hinged door and clear lens, to minimize breakage of lamps due to rain or snow striking a burning lamp and to keep dirt and bugs from collecting on the reflector surface.

The floodlights added in 1948 were of the same general construction as those added in 1936 except for the difference in beam spread. The first consideration was to utilize, as far as possible, the old towers which had been removed from the old stadium. The towers had originally been designed to accommodate the large 1020 floodlight which required about three feet horizontal and vertical space for mounting. Each tower mounted four crossarms, 12 feet long and 50 inches on centers. The main problem was to mount as many of the new floodlights as possible without rebuilding the steel structure any more than necessary. Because the MUA cross arm mounted floodlight could be mounted in a vertical space of 25 inches, it became only necessary to add additional cross arms between the present four arms providing seven arms for mounting the lighting units. By staggering them it was possible to mount seven units on four cross arms and six on three of the arms, providing a bank of 46 lights on each of five towers.

The west side tower, which is lo-

A Live Wire is no better than its Connections

UNIVERSAL PARALLEL TAP CONNECTOR

Catalog Nos. 2030 to 2042

TO CONNECT TWO WIRES VARYING EITHER GREATLY OR SLIGHTLY IN SIZE OR TWO OF THE SAME SIZE

The tightening bolts exert an even pressure on both wires regardless of size. The clamping surface is large and covers a contact area several times greater than the cross-section area of the wire themselves. Locking feature insures a permanent connection.

• WRITE FOR CATALOG 5LC •

K&H KRUEGER & HUDEPOHL
Solderless Terminal Lugs and Connectors
VINE AT THIRD-ES • CINCINNATI 2, OHIO

BRONCO 60

WIRE and CABLE with the DuPont NEOPRENE JACKET

Year after year, on every kind of tough job, more and more wire users are specifying BRONCO 60 cords and cables with the Neoprene jacket.

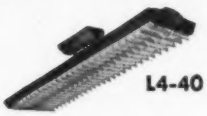
Coils easily . . . does not kink or tangle. Resists oils, chemicals, abrasions, and rough usage. Its extreme flexibility means long life, easy handling, lower maintenance cost and safer operation.

Write today for the name of your nearest BRONCO distributor

WESTERN INSULATED WIRE CO.
1001 E. SIXTY-SECOND ST. • LOS ANGELES 1, CALIF.

Pacemakers in FLUORESCENT LIGHTING

Eastern FLUORESCENT FIXTURES



L4-40

HL4-96

Designed to establish a new standard in fluorescent lighting—to give more smooth, shadowless light for every critical installation — offices, drafting rooms, laboratories, department stores. The new Eastern Slimline Luminaire HL4-96, with 4 hot cathode tubes and 200 milliamp ballasts and the Eastern Louver Luminaire L4-40, with 4 standard fluorescent lamps will give more light at lower cost!

Suitable for individual or continuous mounting, suspended or flush. Hinged louvers make maintenance easy. Can be equipped with top reflector. Approved by Underwriters' Laboratories.

Eastern FIXTURE COMPANY
BOSTON 20, MASSACHUSETTS

REPRESENTED BY—S. L. BAGBY CO.
822 WEST MOREHEAD STREET CHARLOTTE 1, N. C.

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for Southern States. Sales background in Appliance and Radio field helpful but not essential. Pleasing personality with the ability to organize and plan the work. No high pressure selling, but sincere effort desired. Right man can earn excellent salary with fine future assured. Write full particulars of past experience to

NATIONAL APPLIANCE & RADIO DEALERS ASS'N

Merchandise Mart, Room 1437,
Chicago, Illinois

NOW CONCENTRATE LIGHT with NEW PORTABLE No. 505

All Purpose Service Light
... with a hundred and one uses

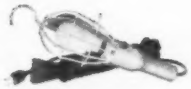
The NEW McGill 505 All Purpose Service Light is equipped with concentrating lens to focus light where you need it most. Concentrating lens make light from 100 watt bulb 6½ times as bright at two feet . . . doubles the intensity at eight feet. Simultaneously, the adjustable rotary reflector spreads ample illumination. Equipped with handy wire bracket stand the 505 can be used on the floor and easily positioned through a full horizontal swivel and 270° vertical arc to focus light conveniently at any angle. With stand removed the 505 can be mounted on wall or ceiling. Ruggedly built of heavy zinc plated steel wire, electrically welded. Handle is polished hard wood. The 505 is equipped with LEVOLIER switch and 25' of oil and grease proof Vynl Thermoplastic cord and plug.

PORTABLE GUARDS FOR EVERY REQUIREMENT

Built of highest quality material and backed by 44 years of "know-how." Cages heavy steel wire plated for long life, exclusive No-Rol design. Handles of rubber or wood with internal construction that takes strain off of socket and cord connection, complete with rubber bushing for extra protection. Sockets and switches all meet or surpass Underwriters requirements.

No. 7000-SR—Most popular design all-purpose guard. Rubber handle. No-Rol cage.

No. 3006 Vaporproof—Watertight and moisture proof. Light weight. Heat resisting globe.



No. 8025-SR—Service Light—Wood handle, Thermoplastic cord and plug. No-Rol cage.

No. 151-CA Lamp Changer—Head with angle adjustment. New insulated interchangeable 5' section steel poles.

"AVAILABLE FROM YOUR ELECTRICAL WHOLESALER"

For McGill Catalog No. 43 write to McGill Mfg. Co., Inc., Electrical Division, 650 N. Campbell St., Valparaiso, Indiana.

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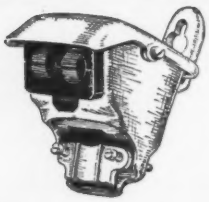
TRADE MARK
electrical specialties

ONLY McGILL MAKES Levolier SWITCHES

NON-METALLIC — BX.
& GROUND WIRE

931-V



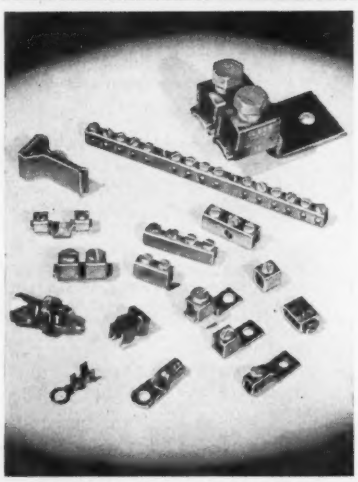
SERVICE ENTRANCE CAP

1819

Sold Thru
Your Local Wholesaler

ATLANTIC CONDUIT FITTINGS CO.
BOSTON, MASS.

ILSCO
Electrical Connectors



MANY TYPES AND SIZES
WRITE for 54-page illustrated catalog.

Southern Representatives:
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ILSCO COPPER TUBE & PRODUCTS, Inc.
CINCINNATI, OHIO

cated on top of the press box, had to be constructed new since the roof of the press box itself is approximately 129 feet above the playing field. Since all of the LCE-1020 floodlights, in good condition, were available, it was decided to use these units on the tower above the press box. This tower was designed with five cross arms on 38-inch centers, 19 feet long, mounting nine units each, thereby providing a sixth bank of 45 units. This, with the five other towers of 46 units each, provided a total of 275 1500-watt units which, when properly aimed, are expected to provide about 50 to 55 foot-candles on the field.

The general construction of the new stadium governed the final locations of all towers. All, except the tower over the press box, were located back of the top row of seats, and on the concrete structure supporting the stadium. Towers numbers 1 and 3, on the west side, are 135 feet from the 50 yard line and 200 feet from the edge of the playing field. Tower number 2, over the press box, is on the 50 yard line and 210 feet from the edge of the playing field. Towers 4 and 6 are 134 feet from the 50 yard line and 200 feet from the edge while tower number 5 is on the 50 yard line and 210 feet from the edge.

As previously mentioned, it was desirable to use the old towers without alterations so far as was practical, and thus the sections were reinstalled to provide towers approximately the same height with the top cross arms of towers 1 and 3 at 148 feet above the playing field, towers 4, 5 and 6 at 135 feet, and the number 2 tower over the press box at 145 feet.

Electric service to each tower is three-phase, four-wire, 120-208 volts from a distribution vault centrally located on each side of the stadium. Each tower is provided with two feeders serving branch circuit panels at the bottom of each tower. Each feeder is controlled by a contactor with all twelve contactors remotely controlled from the press box level. With this arrangement it is possible to turn on only half the lights on each tower when full illumination is not needed.

Since the floodlights for the Cotton Bowl are not burned more than 200 hours per year it is considered practical to burn the lamps at 10 per cent over voltage, thereby gaining more intensity, although shortening the life of the lamp somewhat.

ALWAYS SPECIFY THE BEST
WHITER THAN WHITE

ABOLITE *Lighting*

- Industrial
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Subox
Anti-Corrosive Paint
for
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Including Fences,
Applied in a single coat
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FIRE ALARM SYSTEMS

Representative with established following wanted to represent manufacturer in Southern territory. Give complete information concerning your activities in your first letter. Ellmann Co. Chandler Building Washington, D. C.

ELECTRICAL ENGINEERS

Graduates, experienced in design, engineering and economic studies of steam-electric power plants and high voltage substations. Also, engineer experienced in power system relaying and in preparation of specifications for switchboards and switchgear. Please submit resume including personal data, education and experience record to:

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Personnel Department
Two Rector Street, New York City 6, New York

ELECTRICAL SOUTH

June, 1949

This is one section of the current issue of Electrical South.

Appliance Section

Household and Commercial Appliances • Radio • Television

DRAMATIZE IT—An appliance salesman takes his disposal unit sales story right into this young couple's kitchen for a quick, convincing demonstration. This new disposal unit demonstrator enables the salesman to dramatize a device which has had little point-of-sale glamour. After the demonstrator is plugged into an electric outlet and attached to the sink spigot, the disposal unit can be operated just as though it were installed in the sink. The salesman can use carrot tops and small wood blocks to simulate food waste and bones. The pulverized material can be seen in the transparent glass drain tube after passing through the grinding mechanism. (See page 62).

•

ALSO IN THIS ISSUE:

All-Round Program Pushes All-Electric Kitchens 60

Sale Building Incentive Program for Salesmen 65

Potent Sales Closer — The Washer Party 67

Sales Up — Profits Down Dealer Survey Discloses ... 70

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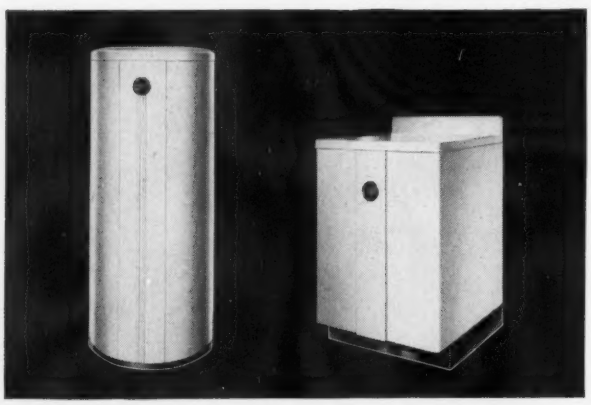
ELECTRICAL SOUTH, 806 Peachtree St., NE, Atlanta 5, Ga.

Push heater against wall (pipe recesses are provided) and connect pipes to heater tank.
2
1
You simply bring pipes up to table height.
3
Slide table top into position and secure. That's all there is to it!

see how easy it is to install the

JOHN WOOD

table top electric water heaters



This brand new John Wood Table Top Model* is the EASIEST TO INSTALL Water Heater—bar none! There's no stretch, no stoop, no squirm to this installation. Not only is the installation job reduced to three simple steps, temperature adjustment and servicing are faster, easier because John Wood has located all controls, electrical connections and even the drain valve behind a removable front panel. And more, these sensational new heaters retain all the features of the standard upright models that have added to John Wood's 82 year reputation for quality—the patented process Electric Weld tank, snap-action thermostat, efficient heating elements, magnesium anode, gleaming white finish and warranty plans providing up to 10 years protection . . . plus anti-siphon cold water inlet with diffuser baffle. So put an end to your table-top-troubles now . . . choose, sell and install the new John Wood. Write for complete information. JOHN WOOD MANUFACTURING COMPANY, INC., Conshohocken, Pa., Chicago 9, Ill., Toronto, Canada

JOHN WOOD

QUALITY-BUILT WATER HEATERS FOR 48 YEARS

IT'S A FACT

USE VALUE IS PROOF VALUE in the Deepfreeze HOME FREEZER SALES STORY!

TRADE MARK REG. U. S. PAT. OFF.

16 SOLD in 11 DAYS!

"Free Trial Offers are back at Ashburn's in Alhambra, California . . . and with real *sales results.*" . . . *states* ORVILLE F. MILLER

Return to hard-selling at Ashburn's is paying off . . . with salesmen and promotion stressing USE VALUE. According to Mr. Miller, "All of our customers are *keeping* the Deepfreeze home freezers installed on trial offers. Not one Deepfreeze home freezer has ever been returned." This savings and convenience story is proof to prospects that a Deepfreeze home freezer is an essential in every modern home.

"AND ONCE THEY TRY 'EM, THEY BUY 'EM!"

"Yes, if you let your customers try Deepfreeze home freezers in their homes, you'll never have to take them back. It's simply a quality line of merchandise that stands on its own feet," says Mr. Miller.

SALES QUOTA ASSURED WITH TIE-INS!

"Sales are assured by newspaper and direct mail advertising tieing-in with the Deepfreeze national advertising program," says Mr. Will J. Lavelle, Advertising Manager of Ashburn's.

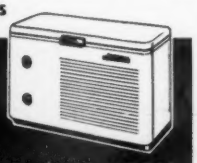
The national campaign with its tremendous selling impact and sales aids supplied by Sherman-Swenson and Associates, Deepfreeze distributor, are thoroughly utilized by Ashburn's.

DON'T DELAY!

See your Deepfreeze distributor or write direct today for the number 1 franchise!

DEEPFREEZE DIVISION • MOTOR PRODUCTS CORPORATION
North Chicago, Illinois

Deepfreeze
America's Fastest Selling Home Freezer and Refrigerator Line



DE LUXE MODEL C-10 10 CU. FT.

Dominion APPLIANCES

Here are gifts worthy of "all out" promotion! The season is here—in fact, every month is opportunity month in the bridal market when promoting these outstanding appliances!

THE "GRID-O-MATIC" (above left) - Breath taking, modern styling . . . every day utility. Makes huge, tempting waffles with uniformly good results. Or, quickly turn the same grids (no extra set of grids to store) and you have a spacious grilling surface that becomes invaluable. So handy, so dependable and so many uses! No wonder the "Grid-o-matic" is winning praise everywhere!

THE "POP-O-MATIC" TOASTER - Another new member of the Dominion line of "Family Favorites" which has also won immediate acceptance. Superb styling, mirror-like chrome finish, appetizing toast, shaded to taste, combine to provide a toaster that would delight any bride—young or old!

Makers of a full line of table appliances—available through reputable distributors across the nation.

DOMINION ELECTRIC CORPORATION
MANSFIELD - OHIO

See the **DOMINION** line at
Booths No. 464-466
Housewares Show - - Atlantic City
July 11 to 15, 1949

ALL-ROUND PROGRAM PUSHES

by S. W. Ellis

A SALES-AND-SERVICE program that revolves around the all-electric kitchen, complete with cabinets, dishwasher, small appliances, and even color scheme, is bringing outstanding results in more appliance volume for the M. M. Cohn Company, Little Rock, Ark.

The manager, Dick Herbert, is never satisfied with selling a single appliance, even to people of moderate income. That first appliance becomes the first unit in the complete kitchen that is the goal of his sales and service efforts.

Last year the department sold 75 complete kitchens and many partial kitchens that are growing unit by unit.

The M. M. Cohn Company, one of the leading department stores of the Southwest, went cautiously into appliance selling only three years ago, with Mr. Herbert as department manager. He immediately started proving that he was right in believing that the appliance department of a style store that has stressed quality should pay—and pay well. This appliance department does.

The department is dramatically situated in a part of the store advertised as "At The Foot Of The Crystal Stairway." Some stores might call it the basement, but this store never refers to the downstairs store in this way. The glass-enclosed stairway is a handsome architectural feature that provides a raised vantage point where the customers often pause to enjoy the spread of merchandise below. They look right down into the appliance department, where the all-electric kitchen is one of the most interesting spots, in its own alcove.

Because this appliance department seeks to be different from others in many ways, even the model kitchen is individually styled. The window over the sink was painted in by the store's art department. The one-piece counter top includes the kitchen desk that Mr. Herbert designed, which is often included in the original plans he makes for kitchen customers.

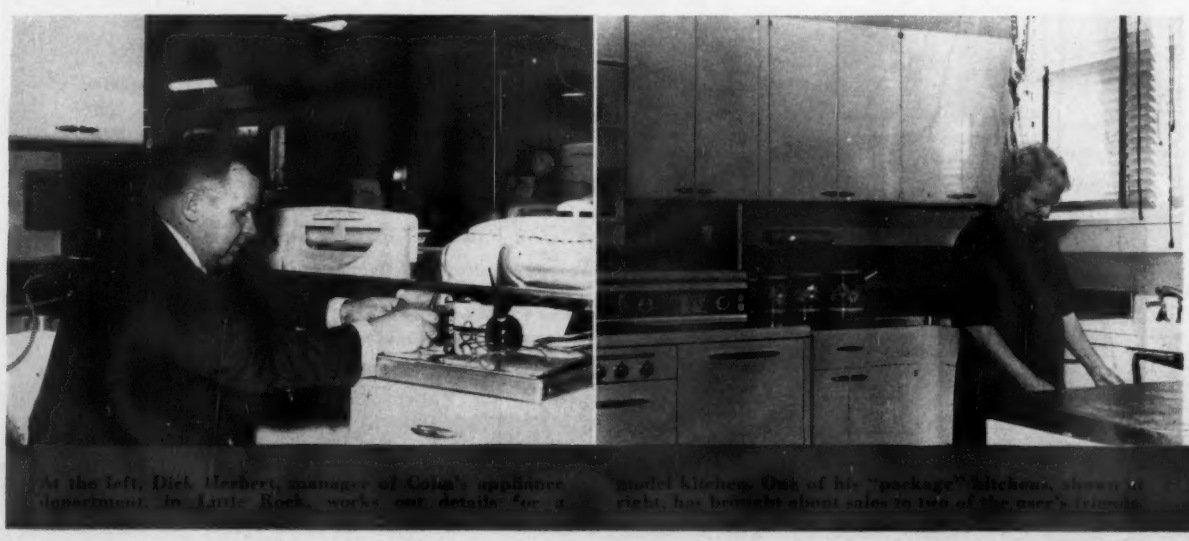
The kitchen-planning service sells the growing kitchen as well as complete ones. Mr. Herbert submits sketches and color schemes after he measures the prospect's kitchen.

One of the most successful promotional ideas for the sale of complete kitchens is carried out in newspaper advertising. Measuring about one-third of a page, each advertisement includes information and illustration of a kitchen, with a breakdown of the units that make it—the electric sink, including dishwasher and disposal, the automatic washer, clothes dryer, refrigerator, and range.

Every advertisement carries a coupon that invites the customer or prospect to check whether he wants a representative to make a survey of the kitchen or whether he wants only a brochure of the kitchen.

Every advertisement brings about 20 replies asking for a survey. Because one-fourth of these inquiries result in sales of complete kitchens, Mr. Herbert calls on the prospect personally, even though he often has to go out of town. It pays well to make trips within a radius of fifty miles. Last year, in a town of 1,500 inhabitants, he sold eight complete kitchens, several of which totaled $3,000.00 each.

No charge is made for the sketch. When the kitchen is bought, the charge includes appliances, labor, and mileage used to make the sale. The store handles the complete job, doing all work with its own installation crew, except the electrical wiring and plumbing, which are handled under outside contract.



At the left, Dick Herbert, manager of Cohn's appliance department, in Little Rock, works out details for a model kitchen. One of his "package" kitchens, shown at right, has brought about sales in two of the user's friends.

ALL-ELECTRIC KITCHENS

Mr. Herbert's aggressive sales program includes calling regularly on local architects. He says that architects do not give enough thought to the all-electric kitchen unless prompted by the dealer who wants to sell complete modern kitchens. When Mr. Herbert can contact the architect before the home is built, he urges that correct wiring and sufficient outlets for electrical appliances be included in plans, and that provision be made for the necessary backing on which to hang kitchen cabinets. He also urges the architect to plan the kitchen around storage units instead of around windows and doors.

"We dealers can pass on a lot of information to architects regarding modern kitchens," he pointed out. "Only one per cent of appliance users have all-electric kitchens, with modern built-in features. That leaves a vast field for the dealer who is prepared to go after this rich volume. One of the basic sales points for it is the architect."

The appliance sales force is made up of six people, who alternate their time between working in and out. Thus three are on the floor, while three work the territory. They change about each day, the change keeping them fresh on the job.

The appliance department is laid out and managed to sell more appliances from the floor than most dealers hope to sell. Many of the appli-

(*Continued on page 87*)

The display floor of the M. M. Cohn Company's appliance department as viewed dramatically from the "Crystal Stairway." The appliance department occupies a location referred to as "at the foot of the Crystal Stairway"—they never call it a basement.

Because the management considers the dishwasher as the heart of the electric kitchen, it receives considerable special promotion.

Who Buys Disposal Units —

how, where, and why—

This young couple examine a disposal unit mounted on a new display stand in a dealer's store. The husband operates the sink drain lock after the dealer points out this safety feature. The new stand was designed by the manufacturer for a dramatic window or floor display.

HALF OF THE CONSUMERS who purchased disposal units during the last 12 months, according to a survey just completed by Hotpoint, did so as a result of a kitchen remodeling program. Of those purchasing another appliance at the same time, 50 per cent bought an automatic dishwasher. More than half of the consumers had not seen a disposal in operation in a home before making their purchase.

These statements are projections based on first tabulations of returns from a continuing survey reflecting types of dealers making the sales; arrangements for installation; companion purchases; price classification of buyer's home; reasons for patronizing a particular dealer; and population of buyer's town. The survey is part of a market research study being conducted by Hotpoint, Inc., to compile new data on consumer buying habits as related to kitchen and home laundry appliances.

In this first national consumer survey on disposal units, the number of answers does not reflect a broad sample comparable to that shown in other company surveys on older, more established appliances, Leonard C. Truesdell, vice-president of marketing, said. However, these data do represent the first tabulated report on consumer-disposal unit experience, and definitely tab this appliance as having cleared the first hurdle of public acceptance among home owners in the $10,000-$15,000 and up classes, he said.

Because the survey is based on insert questionnaires filled out by consumers after buying a Disposall, the report does not reflect the large number of Disposalls installed by builders before the house was bought, Mr. Truesdell said. While marketing channels for plumbed-in appliances are continually being broadened, sales recorded here were made principally by specialized appliance stores, much as they are with other appliances, he noted.

His analysis pointed out that the volume of Disposall sales handled by builders will veer sharply upward with the increasing competition among builders for home sales. While builders have aimed at keeping over-all costs down even at a sacrifice of wanted extra equipment, this practice will change with the increasing supply of new houses resulting from the recent easing of materials supplies, he said.

The need for industry-wide progress in arriving at reasonably priced and standardized installations was reflected in tabulations showing that 47 per cent of the dealers who sold Disposalls did not make arrangements to have the appliance installed. Truesdell said that it was not possible to

determine the average cost of installation, since the Disposall frequently was part of a package installation.

The type of dealer making the sale was primarily an electric appliance outlet (73 per cent), while plumbing and heating dealers were next with 12 per cent of the sales. The latter figure is significant, Truesdell said, in view of the fact that franchised merchandising plumbers represent only four per cent of the company's 10,000 retail outlets.

Closer industry co-operation with plumbers' associations in an attempt to encourage plumbers to merchandise hook-up appliances—disposals, dishwashers and electric water heaters—should be reflected in future survey tabulations, showing better arrangements for installation, he said. Spectacular gains in sales of dishwashers and disposals during the last two years indicate that both appliances can reach an annual sales mark of one million units. He said that this kind of volume would be possible only if the industry "unites to bring about a practical working relationship between appliance dealers and plumbers, and to educate more plumbers to the profit opportunities in merchandising appliances."

Reasons for patronizing a particular dealer in the purchase of a Disposall centered around confidence in the dealer and in the merchandise he carried. The most conspicuous written-in comments in their order of importance were "a friend" (18 per cent); "reliable" (16 per cent); "previous dealings" (12 per cent).

More than half of the consumer-purchasers waited six months or less before buying a Disposall. Reasons listed for the delay were "deciding on brand" (14 per cent); "price" (12 per cent); "remodeling" (12 per cent); "availability" (11 per cent); "not settled in home" (10 per cent).

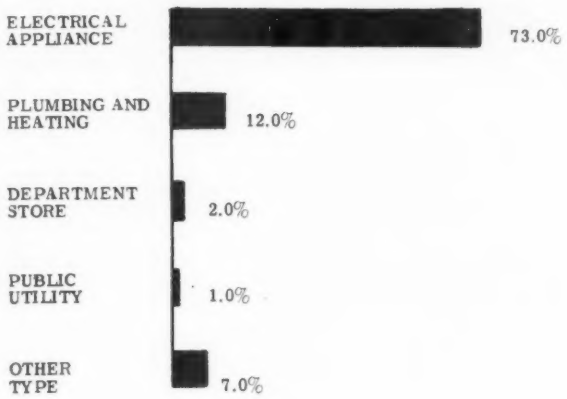
Truesdell said that definite gains in the new home market were indicated by the 14 per cent who bought a Disposall for this type of installation. Although the majority of purchases (47 per cent) were made in connection with a kitchen remodeling program, 37 per cent of the consumers bought the appliance as a separate purchase.

The survey indicated a relationship of other products purchased in conjunction with a Disposall may prove valuable for dealers planning package promotions, Truesdell said. As a logical companion piece to the Disposall, the automatic dishwasher was bought by 50 per cent of the consumers as a related purchase. Simultaneous purchases of electric ranges were made by 15 per cent of the consumers; sinks, 14 per cent; and cabinets, 11 per cent.

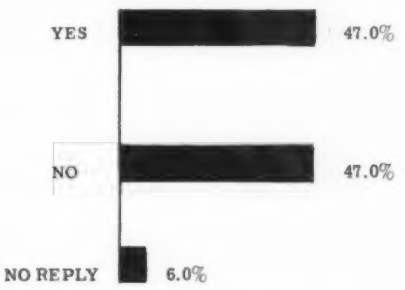
Commenting on these relationships, Truesdell said that sales of disposals combined with dishwashers can lead to the purchase of a group of appliances or a complete kitchen

(*Continued on page 71*)

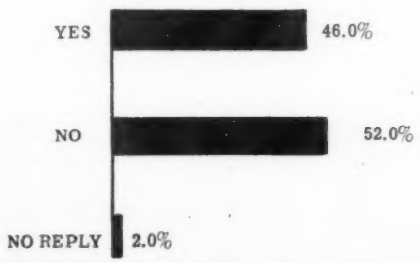
"FROM WHAT TYPE OF DEALER DID YOU BUY?"



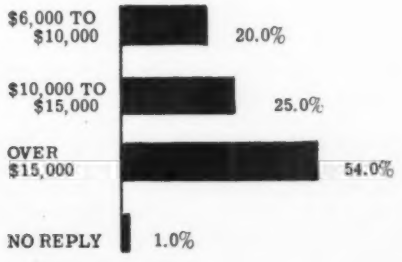
"DID THE DEALER WHO SOLD IT TO YOU ARRANGE TO HAVE IT INSTALLED?"



"HAD YOU SEEN A DISPOSALL IN OPERATION IN A HOME BEFORE YOU PURCHASED IT?"

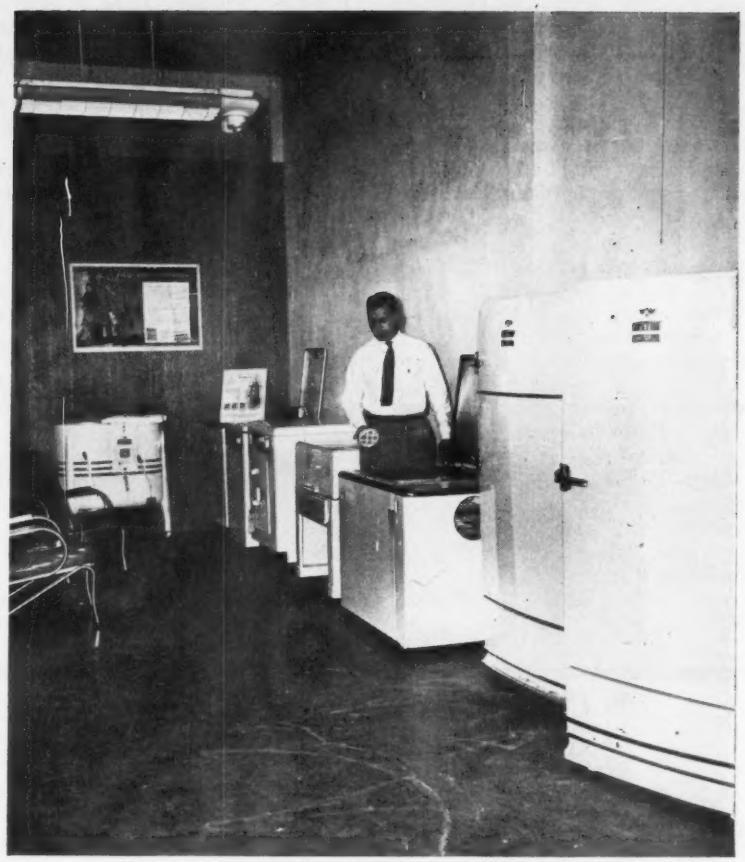


"IN WHAT PRICE CLASSIFICATION IS YOUR HOME?"



LIGHT IT *to* SELL IT

by Harrie H. Bierman



Both exterior and interior of appliances are lighted at Buckholder's, Inc., Miami, so that contents and amount of space may be plainly seen. H. R. Kinard, salesman for Buckholder's, is shown above displaying a mince pie from a home freeze unit, and explains that it is ready for baking. Floodlight spots may be seen at the right end of the fluorescent fixture.

THE PRINCIPAL OWNER of Burkholder's, Inc., Miami, Fla., is Reg Burkholder, a whole-hearted advocate of the "light it to sell it" tenet of up-to-the-minute merchandising. To this end he has given his display room, at 1950 S.W. Eighth Street, an illumination intensity of 25 to 90 foot-candles.

Associated, as a partner, for several years with another local, appliance-selling dealership, Burkholder had learned by experience that prospective customers more readily will buy an appliance, all parts of which are clearly visible, rather than one partly in shadow. Good lighting, he has found, is a major help to salesmen in explaining the "features" of an electrical appliance, and, consequently, helps to expand the firm's sales volume.

When Burkholder decided to go into business for himself, he chose a brand new store-space, for which the owner provided no lighting fixtures. Burkholder therefore was free to select his own. With a display-room space of 15 feet by 45 feet to illuminate, he decided on 6 louver-type fluorescent fixtures.

In pairs these were arranged in three end-to-end installations, at right angles to the store's longer dimension. Each fixture unit was equipped with four 40-watt lamps, and the installation provided a lighting level at waist-height of 25 foot-candles. However, the interiors of such appliances as washers, home freezers, and refrigerators were not too plainly lighted.

To remedy this lighting defect, Burkholder equipped each end of each double fixture with an attachable spotlight unit. Each of these units is provided with two spotlights, a total of 4 for each double fixture. Fluorescent lamps and spotlights, together, furnish an illumination level of 90 foot-candles, lighting up the insides of washer bowls, freeze unit, and refrigerator interiors with efficient illumination. Thus, the prospective buyer plainly can see the action in the bowl of the washer's agitator or the amount and disposition of storage space in a refrigerator or home freezer unit.

Spotlight lamp sockets swivel in a full circle, and they have a tilting range up to 35 degrees from vertical. The employment of "spot" or "flood lamps" in the sockets is interchangeable. Both types of lamps, as used in the display room, are of 150-watt capacity.

Not only does Burkholder believe in the efficient illumination of the appliance he sells, but he is convinced that showing them in use is a necessary pre-requisite to sale. Consequently, he has them all connected and ready to use. For example, he has an automatic washer completely ready for full-scale demonstration. Next to it he has an electric hot water heater in operation and connected up to the washer. Thus, he has a ready-to-hand hot water supply for washer demonstration.

(*Continued on page 87*)

sales building Incentive Program

by Robert A. Latimer

AN EXCELLENT incentive plan which has shown sales-building results since early 1949 has been developed at Kann's, huge appliance dealership in Washington, D. C.

The Kann appliance store, located across the street from the main department store, is headed by veteran dealer Joe Feinberg, who is currently setting up a complete outside sales crew for intensified competition in the near future.

The outside sales crew, unlike previous operations, will average two days on outside calls per week, plus four days on the sales floor, and will be encouraged to make all night calls possible. The sales crew will be managed by an "outside supervisor" who will receive an over-ride commission on every sale made through his promotional efforts.

"The most effective means of insuring that outside salesmen make plenty of out-of-the-store calls is through added commission incentive, Mr. Feinberg pointed out. "Therefore, in addition to his drawing account, 5 per cent standard commission on all appliances, the salesman will be paid an extra 2 per cent commission for each sale which originates entirely from cold-canvassing, lead followups, or otherwise originated outside the store."

This total commission of 7 per cent will rank the Kann store well above the Washington average for specialty salesmen compensation, Mr. Feinberg pointed out. "With the supervisor, our selling cost will be increased to 10 per cent," he indicated, "but we feel that this is necessary in the department store type of operation, and that the additional selling cost will be well repaid by extra volume."

Salesmen have quickly taken advantage of the out-of-the-store sales bonus. Many of them have developed ingenious ideas for locating new prospects. One such salesman is Floyd Miller, outside salesman for Kann's, who formulated this simple idea for digging up worthwhile prospects:

Instead of waiting for leads to be produced through advertising, user contacts, etc., Mr. Miller makes a point of taking frequent automobile trips around new building residental districts of the nation's capitol.

Whenever he finds a new home under construction, Miller parks his car, and shaking hands with the contractor or foreman in charge, attempts to get the name of the owner.

"On many occasions, of course, the foreman of the building crew does not know the name of the owner, or the contractor refuses to divulge it," Miller indicated. "In such cases, however, I am usually able to get the name from the city hall building record, from the owner's license plates, etc."

Spending 5 or 10 minutes on each call has produced a long list of "hot prospects" for the appliance salesman. As soon as he locates the name and address of the owner, he makes a call, offering appliance service all the way from a new refrigerator to a complete all-electric kitchen. Frequently, the home owner is contacted before he has given much thought to these details, and the result can be a sale in four figures.

In regular outside calls, Mr. Miller makes use of the "one, two, three system," consisting of calling back on every sold customer within two weeks after installation of her new refrigerator, and after checking its adjustment, etc., ringing doorbells at the house on either side, plus the one across the street. However, his "direct research" at the sites of new homes being built has proven most directly productive of large unit appliance sales.

The handsome Kann store sold more than 1,500 refrigerators last year, which was an all-time record. Sales averages for 1949 to date indicate a similar volume; however, the "sledding will be much more arduous," as Feinberg put it.

Like many leading appliance dealerships, the Washington department store has been considerably hampered in all-electric kitchen promotion, due to inability to develop a workable plan with the city's plumbers or electricians. Therefore, sales have been limited to a less-installation basis, which has considerably cut down on sales possibilities.

The high rate of compensation which is being offered specialty salesmen at present is resulting in a better caliber of men, plus a reduction in personnel turnover, it was indicated. All salesmen, as they are added to the payroll, are being sent to training schools in Baltimore, two men attending in early fall, and another in December.

"We are keeping complete file records on every appliance sale made," Feinberg said, "which will not only give the name and address of the owner, but all information on repair service, warranty duration, etc. Over a period of years, we believe that this will create a worthwhile replacement market."

The Kann store is creating considerable attention due to the fact that all "junk" trade-in refrigerators are being cleaned up and turned over to G.I. refrigeration, plumbing, and engineering schools for classroom demonstrations. The store has received many thanks for this policy, and

(*Continued on page 87*)

Hot Weather sells Buzz Fans

by Baron Creager

WHEN THE WEATHER turns hot, the sale of "buzz" fans constitutes up to 50 per cent of the total sales volume in the appliance section of A. Harris & Company, Dallas, Texas, department store.

Store policy does not permit the release of figures showing specific unit sales or dollar volume, but as is pointed out by L. L. Woodham, appliance buyer and department manager, fan sales must be consistently brisk to account for no less than 30 and as much as 50 per cent of volume where a complete range of major and minor appliances is offered.

Woodham's experience indicates, he says, that the opportunity for volume in "buzz" fans should not be overlooked by any dealer in the South.

"Buzz fan season is of long duration in the South," he emphasizes. "For the A. Harris store, the season is six months long. We put fans on display by April 1 and keep them on display until the first of October.

"Perhaps there are not so many sales in April, but our display is suggestive of the approaching season. It gives the prospects a chance to look over the various models and, we believe, causes the prospect to remember our store when the time comes to buy.

"And it is true, of course, that September is not a peak month for fan sales. But there are many sales to persons returning from vacations in a cooler climate. Also, September is a month in which we move out the odds and ends, with special clearances if necessary."

Another reason Woodham likes the "buzz" fan for volume is that floor, table, or pedestal fans are so easy to sell, requiring very little technical ability from sales personnel.

In the A. Harris appliance section, most of the sales people are young ladies. Yet, salesladies of intelligence can and do sell fans as well as trained men, for they need to know only a few important facts about these items of electrical merchandise, according to Woodham.

"Some of these points of knowledge about fans are even secondary," he says.

"A sales person should, naturally, know the size of a fan, whether it is a deluxe or standard model, and whether it is oscillatory or stationary. The customer often specifies that he or she wants to see a certain size oscillating fan, so it is only necessary for the sales person to identify the fan asked for.

"Yet there is one characteristic of a fan that I consider highly important for all sales persons to be familiar with, and that is oiling—does the fan require oiling or does it have sealed-in lubrication for life? That is highly important. Unless pointedly instructed, many customers will not oil a fan requiring oil. It is obvious to anyone in the business what happens to a fan in service that is not oiled. The result is merchandise returned. And we have had customers futilely waste half a can of oil on a sealed fan, and then have the oil drain out and ruin house furnishings.

"Yes, the buzz fan is so universally accepted that there is practically no sales resistance. Yet, after the many years that people have been living with these fans, it is still absolutely necessary to tell customers their fans do need oiling, or do not need oiling."

In Woodham's experience, price figures only in a minor sense in the purchase of a fan. The customer generally knows the type and size of fan needed and his or her long observation of fans has often resulted in favoritism for a brand name.

Almost invariably, however, quality is the first requirement of a fan customer. When price does enter into the transaction, the customer usually is quite satisfied to take a fan smaller than the one originally decided upon, as long as it is a quality item.

A. Harris & Company handle seven different fan brand names. Of these, six are nationally accepted and nationally advertised and the seventh is accepted and widely advertised in the Southwest.

Those familiar with Dallas will recognize the value in location of the appliance section of A. Harris & Company. At Elm and Akard in Dallas, according to a survey, is one of Southwest's busiest points for pedestrian traffic.

Promotion at Season's Peak

At this point is the A. Harris appliance department, and in the corner window—plate glass on two sides—an animated display of "buzz" fans is maintained for the peak season, from June 1 to September 1.

Throughout this season the store devotes much of its newspaper advertising space to fans, but promotion is considered by Woodham to be more effective through two displays, with action in the window and a bank of two dozen fans on display inside.

This store sells many fans to women for two reasons. First, delivery service, as on any item from any other department, is available to appliance customers. Second, the A. Harris parking lot enables shoppers to leave cars and ride direct to the store doors in a company bus. Purchases made are delivered to the parking lot and stowed in the car before the owner returns to claim it.

Because of the presence of excellent distribution facilities in Dallas, Manager Woodham has found it unnecessary to purchase a season's supply of fans. He buys up to his first 30 days' need and then supplements stocks as the fans move out.

This makes it possible, he says, to correct any early errors in buying as the season advances—and without loss of profit to the department!

Potent Sales Closer—

the WASHER PARTY

by L. H. Houck

How WOULD you like to sell four out of every ten washer prospects? A mere forty per cent?

That's the record of the Jefferson Electric Company, Pine Bluff, Arkansas, using the unique idea of the washer party.

C. E. Jones, president of the company, who incidentally started training his sales force to *sell* more than two years ago, has found his washer party idea a potent sales closer and good will builder.

The idea is being used in all income brackets from the highest to the lowest.

It starts after a washer sale has been completed. The new owner, who is naturally enthusiastic about her new laundry equipment and her home, is asked to give a washer party to which she is to ask ten of her friends. The Jefferson Electric Company furnishes a cake and gives each guest a present.

No more than ten are to be invited because they have found that more than that number makes the party hard to handle.

Each guest fills out a registration card for the Jefferson Electric and one of their salesmen is in attendance at the party. This card lists the name of the guest, the laundry and electric appliance they own and when possible a list of items in which they are interested. No guests are to be invited who have new washing machines. The company also installs a demonstrator washer at the party.

There is no selling at the party. The salesman is there to answer questions and to supervise the registration of the guests. Entertainment may take any turn the hostess likes and to suit the tastes of the guests. Some play bridge, others make the party into a musical, while others discuss homemaking, cooking, and homes.

Washer parties are usually scheduled on Monday and are seldom held during the latter days of any week.

After the party has been held, the salesman who was present starts his routine of calling on each guest present. His first objective is to sell her an automatic washer and he asks the prospect to bring a family washing with him down to the laundry they have set up in the store, so she can see for herself just how well the washer operates on her own laundry.

Mr. Jones, who has developed this selling idea, said that there is no comparison between a laundry demonstration using the prospect's clothes and one using other clothes. The salesman has no hesitancy in showing the prospect a finished job on her own belongings when they have been laundered, even to the extent of asking her to smell how clean they are washed.

If the prospect demurs at coming down to the store laundry and seeing her clothes done, the salesman tries to make a compromise deal by offering to take a bundle of laundry down and launder it and bring it back. This is not just a gesture, either, because the salesman asks for a full family laundry bundle so the prospect will actually derive the benefit of having it done free. Mr. Jones said the washing of a few sample garments has little sales weight.

As a matter of record most of the prospects elect to go down to the store where they can see their laundry go through the mill in the privacy of the store laundry. There she can ask as many questions as she likes and she can put the equipment to any test she can think of. She can also try out different models and types of washers.

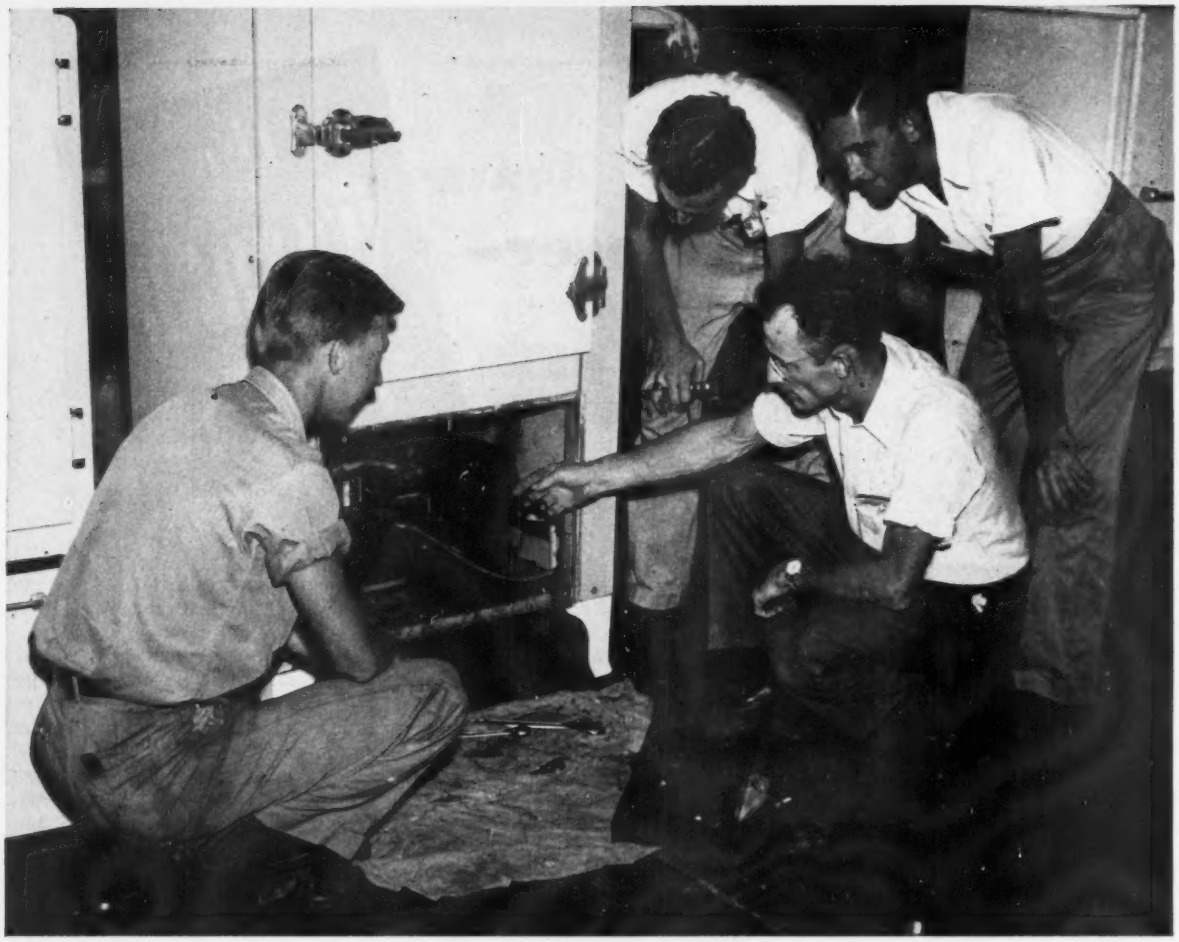
If the prospect goes this far, the demonstration is likely to end up in a sale immediately, and the salesman presses for a close when the demonstration ends favorably so as to avoid having his sales advantage dissipated by time. This is important for other reasons, too, according to Mr. Jones.

"When a prospect arrives at this point," Mr. Jones said, "there is all reason to believe that she wants the washer and has some idea in mind toward arranging for payment. This is true whether the prospect intends to pay for it out of income or out of cash in the bank. Regardless of the financial rating of the prospect, the sale is in competition with other things the customer wants to buy. If the customer is even wealthy, and the washer sale is allowed to lag and the prospect spends a considerable sum of money for something else, it is but human nature to defer buying the washer for a time. Consequently at this time the sale must be pressed to a conclusion."

Following the store demonstration, the salesman may next place a demonstration washer in the prospect's home if he cannot close. In most of the cases the next details are the installation, delivery, and financing details.

Jefferson Electric Company has sold washers to as many as seven of the ten guests invited to one party. In all of such parties held in the past year it has sold an average of four out of each ten guests, some within one week of the party, or forty per cent. Records show that some

(*Continued on page 86*)



They Service *what* They Don't Sell

by Joseph Lawren

THE TAMPA ELECTRIC Company of Tampa, Florida, maintains a highly efficient electrical appliance service department which is based upon the belief that good service of electrical appliances will sell electricity. It is further maintained in the knowledge that although the electric appliance repair department may not show present profits, it is in fact a profitable undertaking, for that profit is bound to appear in the sale of its electricity. For the Tampa Electric Company sells electricity only, and has long been out of the business of selling electrical appliances.

The officials of the Tampa Electric Company are firmly convinced that they must maintain a highly serviceable electric appliance service, to make certain that its electrical power will service the maximum number of their customers' appliances. Although the Tampa Electric Company is happy in the belief that there are many excellent and highly efficient electric appliance service firms in Tampa, it feels its responsibility to its customers, and to the profitable interest of its company, will be maintained only if it keeps its customers contented in the knowledge that they can at all times depend upon their electric company to keep their electric appliances in good order and repair.

Tampa is the industrial center of the West Coast of Florida. It is a city of 125,000 population, with a further 100,000 dwelling within its metropolitan area. The Tampa Electric Company services within the city and its metropolitan area, about 56,000 customers. The company in its electrical service repair department operates in the belief and knowledge that if the electrical service department shows no dividends in money, it does show dividends in the building up of the good will of its customers, and in the ultimate profits which are reflected in the increased sale of its electrical power.

Clyde Merrill, who for 25 years has been with the Tampa Electric Company, and is now the supervisor of the service department, attributes the suc-

cess of his department to the fact that all of his employees are imbued with the feeling of responsibility which, as employees of the company, they owe to the customers of their company. The Service Department, since the company has gone out of the business of selling electrical appliances, is located in a roomy high-ceilinged building at the corner of Garcia and Spruce streets, outside the business section of Tampa.

The plant is 120 by 230 feet, thus giving ample room to house not only the Electrical Service Department, but the entire automotive fleet of the Tampa Electric Company. The Electric Appliance Service Department has plenty of elbow room and plenty of room for expansion. The employees work under ideal conditions of light and air.

All of the various departments are located on the ground floor. The small appliance repair department has a room all to itself. Next to it, is the refrigerator repair department and, cheek by jowl, are the repair sections of range, washer, water cooler, and automatic washers. Since the building is plentifully supplied with truck entrances, the larger electrical appliances are delivered directly from the truck into their special department.

The service telephone is manned 24 hours every day, and during its busiest hours it is handled by Henry L. Wells, who has been the "call boy" for many years. He knows his customers like the open log book in which he records their calls. Each morning the eight outside service men receive their orders from Mr. Wells. He supplies them with the number he believes will occupy them until noon, when each outside service man returns to the office to receive further orders. But after each call, they telephone the office to receive any emergency calls that may have come in meanwhile in their assigned area.

The Service Department makes every effort to handle all calls on the day which they are received. Service calls are based on labor and material with a $1.50 minimum charge for the first half-hour of labor. Thereafter, the charge is $1.50 for each following hour. The same charges hold true for shop service work.

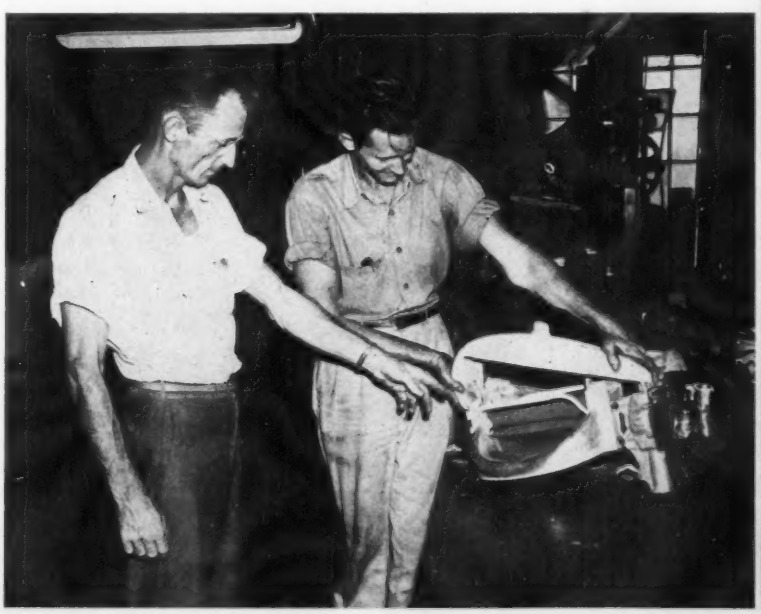
The eight outside, the nine inside shop men, and the four desk men are paid weekly on a 44-hour-week schedule—eight hours per day and four hours on Saturday. However, the men have elected to work eight hours on Saturdays, which gives them a free Saturday every other week. With two weeks vacation-with-pay a year and a free life insurance policy, the men are as contented and faithful a group of employees as can be found in any industrial establishment in Tampa.

Both the outside and inside service men are expert on repair of the appliances in their department. Each man, however, has been trained so that in time of emergency he is capable of helping those in any department. The majority have been in the company's employ for more than five years, and two of them have served more than ten years.

The Tampa Electric Company Service Department expects to handle about 26,000 repair jobs this year. In recent years, it has shown a monthly average of about 1,000 small repair jobs, 700 shop repair jobs of small appliances, and 200 shop servicing jobs on large appliances.

Since the Tampa Electric Company does not sell electrical appliances, its customers fully realize that its slogan "We service what we don't sell" means exactly what it says and that its service department will play no favorites in the appliances which it services.

Both outside and inside service men at the Tampa Electric Company are expert on repair of appliances in their departments. Below left, two repairmen discuss a washer in the laundry equipment repair department; below right, overhauling is in process on a range. At right, Ira Haden, head repairman, makes an operating check on a refrigerator.



Cost-of-Doing Business Survey

Sales Up -- Profits Down

"More business with less profit" tells the story of the average appliance and radio-television dealer's performance in 1948, according to the most recent National Appliance and Radio Dealers Association Cost-Of-Doing-Business Survey. An analysis of returns from a nationwide sample of NARDA members participating in the Association's third annual survey indicates that total dollar sales in 1948 were 12 per cent above 1947. This compares with a gain of 43 per cent in 1947 over 1946.

Richard E. Snyder, NARDA market analyst, reported that total sales of all types of U. S. retailers in 1948 were up approximately 10 per cent over 1947 compared to a gain of 17 per cent in 1947 over 1946; and total sales of all types of durable goods retail stores in the U. S. last year were up about 21 per cent over the previous year compared to a 1947 gain of 38 per cent over 1946.

Thus, the appliance and radio-television dealers' sales, in dropping from a 1947 gain of 43 per cent to a 1948 gain of 12 per cent, suffered relatively more of a shrinkage than was true of retail trade generally, although their 1948 gain of 12 per cent was slightly better than the over-all average.

Sales increases for 1948 were shown by 66 per cent of all dealers participating in the NARDA survey, while the remaining 34 per cent showed sales decreases from 1947. In 1947, only five per cent of the reporting dealers showed sales decreases from 1946.

Actual dollar profits of all reporting dealers declined 24 per cent in 1948 from 1947. Net profits were shown by 86 per cent of the dealers, and net losses were shown by the remaining 14 per cent. Losses ranged from insignificant to amounts equal to 12 per cent of net sales.

Significant Sales Changes

Refrigerator sales last year accounted for 29 per cent of total appliance dollar sales reported by NARDA dealers, marking a change from 24 per cent of the total for this product in 1947, and 19 per cent in 1946. Washing machines were again second in 1948, with 17 per cent of total sales, about the same as in the previous two years. Ranges accounted for 12 per cent of reported sales in 1948, also holding about even with 1947 and 1946. This performance put ranges

Table III. National Operating Cost and Profit Ratios, 1948-1947-1946

Line	Item	National Averages 1948	1947	1946
1.	Net Sales*	100.0	100.0	100.0
2.	Cost of Goods Sold**	68.7	67.0	66.1
3.	Gross Margin (Line 1 minus Line 2)	31.3	33.0	33.9
4.	Total Operating Costs (A thru E)	26.7	26.2	25.4
	A. Administration	18.6	18.2	18.0
	(1) Owners' and/or Managers' Salaries	3.5	NS	NS
	(2) Office Salaries	1.8	NS	NS
	(3) Salesmen's Pay	5.5	4.8	4.8
	(4) Service Men's Wages & Expenses	4.7	4.1	3.3
	(5) Delivery Expense	1.7	NS	NS
	(6) Other Administrative Expenses	1.4	NS	NS
	B. Occupancy Expense	2.8	3.0	3.7
	C. Advertising & Sales Promotion Expense	2.6	2.1	1.9
	D. Bad Debt Losses	0.2	0.2	1.8
	E. All Other Expenses	2.5	2.7	
5.	Net Operating Profit (Line 3 minus Line 4)	4.6	6.8	8.5

* Includes revenue from service
** Includes cost of service parts and supplies
NS: Not segregated in 1947 and 1946 surveys

Table II. Percent of Total Sales of Each Item Involving a Trade-In

Appliance	Trade-In% Of Total Sales 1948	1947	1946
Refrigerators	18	11	3
Washing Machines	27	19	4
Ranges	16	9	2
Vacuum Cleaners	22	26	10

in third place, displacing radios, which dropped from 17 per cent of total sales in both 1947 and 1946 to only 8 per cent in 1948. Vacuum cleaners also took a relatively sharp drop in sales position, accounting for only 1.4 per cent of the total last year against 3 per cent in both 1947 and 1946.

For the first time, the annual survey showed special breakdowns of dollar sales of television sets, home freezers, ironers, and dishwashers. These were included in the more general "other sales" category in previous years. The 1948 figures for these products show that television accounted for 4.4 per cent, home freezers for 2.5 per cent, ironers for 2 per cent, and dishwashers for 1.6 per cent of total sales, putting all four ahead of vacuum cleaners, percentagewise. Table I shows the comparative sales percentages, by products.

Trade-Ins Increase

NARDA's 1948 survey called for data on the extent to which trade-ins accompanied physical sales for four key appliances, as was done in the two earlier reports. The comparative trade-in percentages for all three years are shown in Table II. The 1948 figures indicate that further sharp rises in the ratios of trade-ins to sales of refrigerators, washing machines, and ranges were experienced by the reporting dealers, thus continuing the trend established between 1946 and 1947.

Sales of vacuum cleaners, however, were accompanied by trade-ins in only 22 per cent of the transactions in 1948 by comparison with a 1947 ratio of 26 per cent.

Evidence gathered from trade sources indicated that the monthly rate of trade-ins was increasing sharply during the closing months of 1948.

Higher Cost Ratios

Table III shows the average appliance and radio-television dealer's operating cost and profit ratios for 1948, 1947, and 1946, based on the NARDA Cost-Of-Doing-Business Surveys for each of those years.

The rate of profit on net sales for the average NARDA dealer shrank 20 per cent between 1946 and 1947; and decreased better than 30 per cent between 1947 and 1948. The rise of "costs of goods sold" in 1948 accounts for the greatest portion in the drop in net profit. Salesmen's pay, service men's wages and expense, and advertising and sales promotion expense all showed increases.

Table I — Appliance Sales by Product

Appliance	Percent of Total Sales 1948	1947	1946
Total	100.0	100.0	100.0
Refrigerators	28.6	24.0	19.0
Washing Machines	16.9	18.0	16.0
Ranges	12.2	13.0	12.0
Radios	7.8	17.0	17.0
Vacuum Cleaners	1.4	3.0	3.0
Other Sales*	33.1	25.0	32.0
Television	4.4		
Home Freezers	2.5		
Ironers	2.0		
Dishwashers	1.6		
Other Major Appliances	15.8		
All Small Appliances	6.8		

*Other sales not classified in 1946 and 1947.

Who Buys Disposal Units

(*Continued from page 63*)

modernization. Dealers can dramatize disposals by displaying and demonstrating them as an integral part of the "electric clean-up center."

The section of the survey dealing with the price bracket of consumers' homes, indicated that most sales were made to relatively high income families. No sales were made to consumers with homes valued under $6,000, while 54 per cent of the purchasers valued their homes at $15,000 or more. The $6,000 to $10,000 home classification accounted for 20 per cent; the $10,000 to $15,000, 25 per cent.

Most sales were made to consumers in metropolitan areas, 50 per cent in cities of 50,000 or more persons. Consumers living in towns of 10,000 to 50,000 population represented 20 per cent, and 16 per cent were in a population area of 2,500 to 10,000. Only one per cent of the sales went to farm purchasers. The state of New York had the largest concentration of buyers, representing 24 per cent of the total sales.

An industry-wide educational program on a national scale should be implemented to familiarize consumers with the advantages of disposals. Plumbers should be encouraged to merchandise this appliance along with dishwashers and water heaters. Appliance dealers, assisted by manufacturers and distributors, should develop mutually profitable arrangements with plumbers to standardize installation costs wherever possible.

The farm market for disposals has not been scratched, primarily because consumers do not understand that this appliance is readily adaptable to septic tank installations. Technical studies in conjunction with sanitary engineers, universities, and municipalities are proving helpful in clarifying minimum requirements where a septic tank installation is made. The Uniform Plumbing Code committee, representing authorities in the plumbing industry and in government, already has stated that disposals can be used with septic tanks providing the capacity of the tank is increased by 30 per cent.

Because relatively few disposals are in use in the nation's homes, dealers should use dramatic demonstrations and displays in their stores. New home demonstrators also give dealers the opportunity to take the disposal into the consumer's home for an actual kitchen demonstration.

291—Home Freezers. Full information on the Orley Sixteen, with a 16 cubic ft. capacity, and the Orley Super-Seven, with a 7½ ft. capacity, is available from Orley Freezers Inc., 475 Schaefer Road at Oakwood, Detroit 25, Mich.

314—Fan Units. G-M Laboratories, Inc., 4300 N. Knox Ave., Chicago 41, Ill., have released catalog pages of description on each of the four fan and fan and heater units currently in their line. Informative and well illustrated, these pages list the sizes, characteristics, prices, etc., of each model.

345—Household Electrical Appliances. Dominion Electric Corp., Mansfield, Ohio, offers catalog information and detailed specifications on a complete line of table appliances, called "Family Favorites."

346—Room and Water Heaters. Wesix Electric Heater Co., 390 First St., San Francisco 5, Calif., offers an 8-page illustrated catalog describing Wesix products for home, office and industry.

347—Cooling and Ventilating Equipment. Complete data are available on Chill-Air window fans and coolers for home, theatre and store, recirculating pumps and blowers. Write National Engineering and Manufacturing Co., 523 Wyandotte, Kansas City, Mo.

348—Portable Circulating Heater. A catalogue sheet describing 1320 or 1600 watt portable circulating heaters, featuring cool case and room-wide heat penetration, is available from the Titan Mfg. Co., Inc., 290 Terrace, Buffalo 2, N. Y.

350—Fans. The C. & H. Air Conditioning Fan Co., Inc., 1591-1621 DeKalb Ave., N. E., Atlanta 6, Ga., have released an interesting 28-page booklet, "Cottongim's Supreme Quality Fans." Besides showing pictures of various models, views of operations inside the plant, and specifications, there is a section devoted to methods of installation of attic fans.

351—Radiant Heaters. Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Pa., has prepared a portfolio of Chromalox Radiant Heater Application Reports. In addition, the portfolio includes catalog sheets and technical data on the Chromalox "RAD" heaters. For copies of this portfolio write to the Wiegand Company.

355—Electric Fans. A new Emerson-Electric Master Fan catalog, illustrating in color and describing in detail their complete line of 1949 fans, is offered by the Emerson Electric Mfg. Co., St. Louis 21, Mo.

362—Hot Water Heater. Informative and well-illustrated data are available from M. M. Hedges Manufacturing Co., Inc., Chattanooga, Tenn., on their line of Mertland Automatic water heaters.

366—Propeller Fans. The Herman Nelson Corp., Moline, Ill., announces its new Bulletin 3111 containing 12 pages of technical information and concise details about direct and belt drive propeller fans as well as practical, proven unit fans.

369—Electric Fans. A 28-page, profusely illustrated booklet describes in complete detail, this company's line of fans. Booklet available from Emerson Electric Manufacturing Co., St. Louis 21, Mo.

370—Seco Fans. New bulletins by Seco-Lite Manufacturing Co., 4916 Easton, St. Louis 13, Mo., are now available, illustrating Seco Belt-Driven cooling fans and window fans. Bulletins contain data on installations in homes, apartments, commercial, and industrial applications.

374—Window and Attic Fans. A four-page catalog piece completely illustrated and containing descriptive information on the new low cost "all in one package" window and attic fans has just been released by the Viking Air Conditioning Corp., 5601 Walworth Ave., Cleveland 2, Ohio. Illustrations of automatic ceiling shutter and automatic electric timer are included.

380—Electric Water Heaters. New specification sheets are now available for a full line of cylinder and table top models, featuring the Water Hotter, from the White Products Corp., Middleville, Mich.

381—Heaters and Circulators. The complete line of Mimar Products, Inc., Brooklyn 5, N. Y., is included in a folder which gives specifications, features, and prices of all Mimar heaters and air circulators.

382—Air Circulator. An illustrated catalog page (Form 2305), 8½ x 11 inches in two colors, gives complete specifications and performance characteristics of the G-M 000-24-inch Oscillating 3-Speed Air Circulator. A special 8½ x 11 page of diagrams shows operation of the safety release on the oscillating mechanism. A chart compares performance of this model with other well-known makes. Also glossy 8 x 10 photographs of separate wall, floor, and counter models are available from G-M Laboratories, Inc., 4328 N. Knox Ave., Chicago 41, Ill.

383—Fans. Catalogs Nos. 863 and 864, just issued by Chelsea Fan & Blower Co., Inc., 1206 Grove St., Irvington 11, N. J., include descriptive copy, specifications, dimensions, photographs, etc., of a full line of fans for residential, commercial, and industrial uses. These catalogues include information on 17 types of ventilating and comfort cooling equipment varying in size from 12 inches to 60 inches, and in output from 1,000 c.f.m. to 32,000 c.f.m.

384—Electric Fans & Drills. Signal's complete line for 1949 is shown in a new catalog just off the press, featuring a wide variety of desk, pedestal, exhaust, and vent fans. Literature on drills, telegraphic equipment, and motors is also available from the Signal Electric Mfg. Co., Menominee, Mich.

ELECTRICAL SOUTH
806 Peachtree St., NE
Atlanta 5, Ga.

June, 1949

Gentlemen:

Please send me bulletins indicated below.

No..... No..... No..... No..... No.....
(Print Plainly)

Name..... Title.....

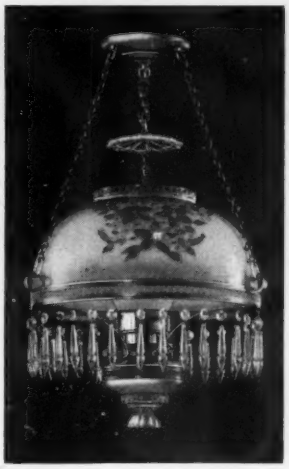
Company.....

Address.....

City & State.....

GLATTHAR
scores again!

Shown is a replica of a 19th Century oil lamp which is sure to be a fast moving fixture for those ranch style and early American homes. Built to Glatthar high quality standards featuring highly polished brass, hand painted and fired bowl.



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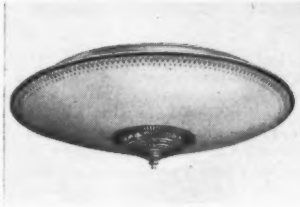

NO. 1416

At left is a 20" ceiling light in satin ivory finish of plain dignity featuring a 5 light reflecting canopy of 16" diameter.

Write today for full information on these items and our catalogue of quality fixtures.

THE GLATTHAR *Lighting* COMPANY
949 East 72nd St. Cleveland 3, Ohio

TERRITORIES AVAILABLE to
Progressive, reliable
DISTRIBUTORS and DEALERS!

the New — IMPROVED "POLAR BREEZ" AIR COOLER

IMMEDIATE DELIVERIES

If you handled the nationally accepted and profitable Hall line before the war, you'll be glad to know these top quality evaporative cooling units are again available with many improvements. "POLAR BREEZ" is sold in complete "packaged units" in various sizes for all types and sizes of business buildings and stores.

Air is purified by a chemical process removing bacteria and algae. Range — 2000—25,000 C.F.M. . . . Glass Fibre Cooling Pads . . . Self cleaning — no servicing or replacement . . . Weather Proof Metal Housing . . . Multi-Blade Pressure Type Blower . . . Directional Flow Grille . . . Roto-Atomizer . . . Doubles cooling and washing action!

"Backed by over 25 years in the Industry."

INVESTIGATE NOW! Write, wire, or phone for details — Morton Grove 4594.

AIR COOLING ENGINEERING CO.
Dept. B Morton Grove, Ill.

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KOOLMASTER
NITECOOL
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NITECOOL

It's Air Equipment's NEW 1949 line of NITECOOL* and KOOLMASTER* Attic Fans . . . Window Fans . . . Vertical Fans. A complete line for more sales . . . and more PROFITS.

A better range of sizes, better quality construction. Standard G E Motors, Torrington Fan Blades, Standard Bronze Bearings, Standard V-Belt Drive, Certified ASH&VE Ratings, Underwriters' Label.

Learn more about this quality line of fans. Clip out the coupon below and mail it today.

*REGISTERED TRADE-MARK

Koolmaster Window Fan

Nitecool Vertical Fans

Nitecool Attic and Commercial Belt-Driven Fans

AIR EQUIPMENT CO., 1713 Carroll Ave., Chicago 12, Illinois

Please send me without obligation complete information on your 1949 line of NITECOOL and KOOLMASTER fans.

I am_____ dealer_____ agent_____ distributor.

Name_____

Address_____

City_____ Zone_____ State_____

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1713 W. CARROLL AVE., CHICAGO 12, ILL. • WAREHOUSE, 630 S. MILLER ST.
55 Years of Experience and Progressive Management

News Roundup

Toastmaster Line Redesigned

KEEPING pace with the modern trend in household appliances, the Toastmaster Standard line of automatic electric water heaters has been entirely redesigned, according to B. M. Riker, general manager of the McGraw Electric Company's Clark Division in Chicago.

The Standard Model changes include both internal and external details, Mr. Riker said, although the original operation features remain almost unchanged. Tank and shell have been made lower and wider, to permit installation in limited space. The base of the Standard Model, which formerly consisted of four legs, has been redesigned to give added strength to the entire water heater and to offer greater support for the tank. Constructed in two pieces, the new base is rectangular, with openings at both front and back to make plumbing connections easily accessible. Base and tank are securely bolted together to prevent possible tank shifting inside the shell.

The electrical outlet, which was under the base of the water heater in older models, has been removed to a position high on the back of the shell. This change substantially reduces the possibility of flood-damage to the wiring system.

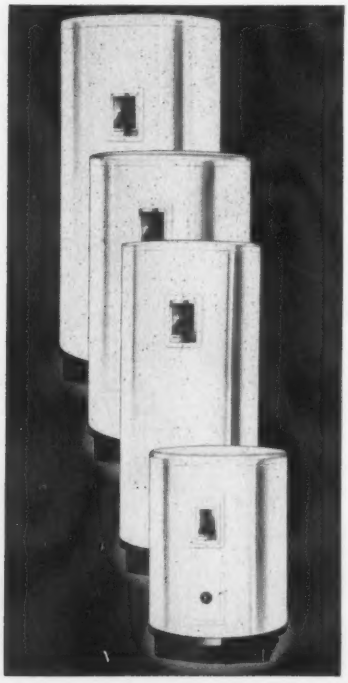
To conform with modern appliance designs, the Standard Model top has been rounded into a smooth, unbroken crown surface. Upon special request, however, an opening for the relief valves will be made in the crown top.

The newly redesigned Toastmaster water heaters are available in a wide range of sizes—30, 50, 67, 82, 100, 125 and 150 gallon capacities. Large capacity models, from 100 gallons or over, which are ordinarily installed in homes or small commercial establishments where hot water demands are unusually large, are shipped partially assembled from the factory in order to permit ease of installation where limited entry facilities might make installation of a fully-assembled water heater impossible.

The time-tested features of older Toastmaster water heaters, with improved developments, are retained in the Toastmaster Standard Model water heaters. The Life-Belt element, the external heating unit which does not cause "lime" or scale to form inside the tank even in hard water, is still a major feature of the Toastmaster water heater line.

The anti-rust tank-protecting Ionodic rod, has been improved in the redesigned Standard Model. The rod has been lengthened considerably, and centered in the tank to insure equal protection for all areas of the tank.

Both tank and element are covered by the Toastmaster service warranty, which offers consumer protection for a 10-year period.



Shown above are four models in the redesigned Toastmaster Standard Model line of automatic electric water heaters.

AN OLD ONE TURNS UP — W. C. Taylor, vice-president of Loveman's, Chattanooga, Tennessee, stands beside an old-time 1921 Universal range, the first model manufactured by Landers, Frary & Clark, which was the winner in the recent Old Range Roundup Contest sponsored by Loveman's. Mrs. Fred Shelton, of Chattanooga, who has been using the range constantly for 27 years was awarded a new 1949 Universal Speedliner range in place of her worthy electric servant of over a quarter of a century.

Sales Training Report Available

INCREASED sales volume, lower distribution costs, higher profits, better customer relations, and lower personnel turnover are some of the results that can be expected from successful sales training, according to a survey of selected companies with progressive sales training programs.

The survey was made by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, in co-operation with The National Federation of Sales Executives and the National Society of Sales Training Executives. Findings of the survey have been published by the Metropolitan in the report, "Training Salesmen," which was issued as a part of the Metropolitan's continuing program of services to group-insured companies.

Purpose of this report is to provide executives with practical assistance in reviewing or developing sales training. Included is information on the following subjects:

The set-up of successful sales training organiations; the development of a training program; how to keep the program practical; how to present the program; training methods available; size of the training group; training aids; outlines and guides for conference leaders; and training facilities. Also included are charts showing the training organizations of several companies; job descriptions of sales personnel and training representatives; and sales training program outlines of several selected companies.

Executives who would like to see

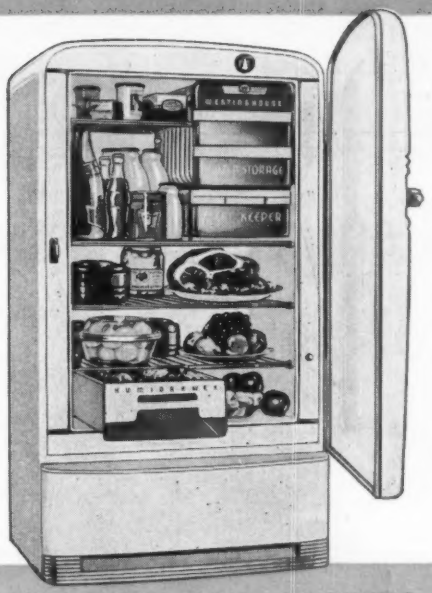
Again Westinghouse comes out swinging with a

FIGHTING PAIR FOR A BUYER'S MARKET

In this Corner

A New De Luxe 7

AT ONLY $229.95



Now you can SELL TOP VALUE . . . at a BOTTOM PRICE! This full 7 cubic foot Westinghouse has all the De Luxe features usually found only on bigger, more expensive models . . . COLDER COLD, aluminum Meat Keeper and Humidrawer, heavy triple-plated, chrome finish shelves. Today's buyers LOOK TO WESTINGHOUSE for greater refrigerator values!

PRICED RIGHT...TIMED RIGHT FOR THE BIG FIGHT!

In this Corner

A New Super 6

AT ONLY $189.95

Here's a great space saver for the small-home owner . . . and a great volume builder for YOU! Famous Westinghouse QUALITY throughout—and powered by the Economizer Mechanism that distinguishes all Westinghouse Refrigerators. You'll sell plenty—at the YEAR'S BEST PRICE!

. . . of course, it's electric!

TUNE IN: Ted Malone . . . every day Monday through Friday . . . ABC Network

YOU CAN BE SURE..IF IT'S Westinghouse

WESTINGHOUSE ELECTRIC CORPORATION • Appliance Division • Mansfield, Ohio

this report may obtain a copy by writing on their business letterhead to Policyholders Service Bureau, Metropolitan Life Insurance Co., 1 Madison Avenue, N. Y. 10, N. Y.

New Sales District Formed by Thor

A SOUTHEASTERN sales district, with headquarters in Atlanta, has been established by the Thor Corporation with J. Ross Sims as its district manager.

Frank J. Simpson, Thor vice-president, said the district is being established to provide closer and more efficient ties between the corporation and its distributors and dealers in an area comprising the states of Georgia, Alabama and Florida, and large portions of Kentucky, Louisiana, Mississippi, Tennessee and Virginia.

Mr. Sims, a graduate of San Diego State College, formerly managed Thor's Rocky Mountain sales district. Assigned also to the new district is Thomas Sandors, Thor factory service representative.

J. Ross Sims

Thor distributors in the new district are: Peaslee-Gaulbert Corp., of Atlanta, Ga., Louisville, Ky., and Jacksonville, Miami and Tampa, Fla.; Alabama Appliance Co., Birmingham, Ala.; C. T. Patterson Co., Inc., New Orleans, La.; Radio & Appliance Distributors, Inc., Chattanooga, Tenn; Southeastern Appliance Distributing Co., Nashville, Tenn.; McComb Supply Co., Harlan, Ky.; Mitchell-Powers Hardware Co., Bristol, Va., and Pensacola Hardware Co., Pensacola, Fla.

Booklet Describes New Pyroflex Unit

THE REVOLUTIONARY Pyroflex unit, designed by Cutler-Hammer to provide better cooking, faster, is described in a recently published booklet for both electric range manufacturers and range users.

The booklet outlines how the new C-H Pyroflex Electric Range Surface Unit, with its unique wave design, spreads heat evenly over the entire cooking area, eliminating burning hot

Requires an Attic Clearance of only 13 3/8 inches

PFMA CERTIFIED RATINGS

The New *Reed*

Vertical Air Discharge Attic Fan

Be ready for the demands of thousands of home owners whose houses have low attic head clearance—capitalize on the consumer demand for Reed Fans. Available in four sizes to meet every requirement, the Reed Vertical Air Discharge Unit has been designed to secure the utmost in simplicity, low cost of installation and years of trouble-free service.

Write for free completely illustrated catalog.

R-U-F

REED UNIT-FANS, INC.

Manufacturers of Ventilating Equipment

1001 St. Charles Ave., New Orleans 8, La., U.S.A.

Certified Ratings PFMA

spots and slow-cooking cold spots.

A surface cookery chart shows wattages obtained and the area covered on ranges having up to seven switch positions. A selection chart lists a multitude of ranges in which Pyroflex can be installed.

A free copy of the booklet, "For the Ultimate in Electric Cooking," can be obtained by writing Cutler-Hammer, Inc., 233 North 12th St., Milwaukee 1, Wisc.

Westinghouse Unveils New Home Freezer

UPSETTING THE TRADITION of holding press meetings on new equipment in New York City, Westinghouse Electric Corporation unveiled its new home freezer in Atlanta, Ga. The new product went on sale in Georgia on May 16th.

G. H. Meilinger, manager of household refrigerators for Westinghouse, reported the new product will be introduced in other sales districts as soon as production permits.

The new Westinghouse Home Freezer, with storage capacity for 210 pounds of food, will retail at a suggested price of $269.95.

The Westinghouse Home Freezer is an upright model that features the same reach-in convenience for easy loading, arranging and removal of foods as a refrigerator. It is designed as a companion model to the 1949 line of the company's refrigerators.

The new freezer has three compartments, each with a separate Handi-Shelf inner door, equipped with strong hinges to permit use of the doors as shelves for easy loading, unloading or arranging of food packages. Each compartment will hold approximately two cubic feet of food and the design permits filing of foods in an

Here's the Moe Light "packaged department" that brings you new profits overnight!

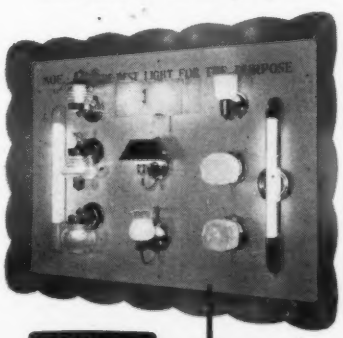
and it's yours without extra cost . . .

you pay only for the lighting fixtures

This offer is just a few weeks old — but dealers have already discovered it's the greatest profit opportunity in the history of the lighting industry. Some have sold out their initial stock in the first week!

To get this beautiful 6 x 4 foot ceiling display, all you need do is to order the basic stock group of 43 individually packaged Moe Light fixtures (25 in addition to 18 used on panel). Pay the special dealer price ($178*) — nothing extra for the display. Regular retail price gives you a good margin, and you've added a profitable new department to your store.

Beautiful Wall Display Panel comes with $108* stock order



This smaller package deal gives you the same profit advantages as the ceiling display panel. It includes 34 individually-packaged Moe Light fixtures (23 in addition to the 11 Moe Light fixtures used on the panel).

Both of these beautiful, masonite, permanent display units come ready for immediate installation, and make use of space now going to waste in your store. So you lose no time cashing in on this profitable lighting fixture business. Merchandise is shipped prepaid direct from factory, displays shipped separate, FOB supplier. Don't miss this opportunity. See your Moe Light distributor today — or send in the coupon below.

**Prices slightly higher west of the Rockies.*

Tear out this coupon and mail today!

MOE Light

PROFITS for hardware, appliance, furniture, paint, department stores and others!

Moe Brothers Mfg. Co., Dept. ES-6, Ft. Atkinson, Wis.

Send me the name of my nearest Moe Light Distributor and full details on your complete "Packaged Department" merchandising program for dealers.

Name.....

Store Name..... ☐ Retailer ☐ Wholesaler

Address.....

City.....(.....) State.....

P-16

orderly manner for quick access, rather than just piling it in.

Defrosting of the new Westinghouse Home Freezer is seldom required and no paddle or blade is necessary for scraping accumulated frost, according to Mr. Meilinger. All that is required is the defrosting of the freezer compartment which can easily be done by placing pans of hot water in it.

"The easy defrosting is possible," he explained, "because the freezing compartment will be consistently at least 10 degrees colder than the balance of the freezer and all of the frost is attracted to the freezing compartment. None will form on the walls, back, bottom or top."

Vepco Appliance Report Compiled

APPLIANCES having an estimated retail value of nearly $35,000,000 were delivered to dealers in the areas of Virginia, West Virginia, and North Carolina served by Vepco in 1948, according to a report compiled by E. T. Moore, the company's residential sales director.

The report shows that last year, six out of every ten customers on Vepco's lines purchased a major appliance. Sales averaged $97 for every electric customer.

For the past several years, virtually all of the distributors in the company's service area have co-operated in the preparation of the report by supplying Vepco with the delivery figures broken down by counties.

The summarized reports are made available to participating distributors and are a valuable aid, as they enable them to figure how much of the total business volume they are getting in any given county.

Vepco does not sell appliances, and there are an estimated 1,000 to 1,200 appliance dealers in the service area. Average retail prices were used in computing the dollar volume.

Here is the total breakdown by states:

APPLIANCE	VA.	W. VA.	N. C.
Ranges	17,556	268	2,389
Refrigerators	42,902	556	4,864
Water heaters	8,962	71	1,174
Home freezers	3,293	134	461
Automatic washers	7,614	21	1,016
Non-automatic washers	22,585	283	2,076
Electric ironers	1,782	95	176
Electric dryers	572	13	37
Electric dishwashers	1,046	22	136
Electric waste disposers	914	7	92
Radios (incl. television)	61,088	1,186	8,712
Bed coverings	2,184	17	224
Vacuum cleaners	6,936	44	656
television)	6,1088	1,186	8,712

Frigidaire Announces 1949 Refrigerators

NEW and greatly improved 1949 models of Frigidaire refrigerators at no increase in price have been announced recently by P. M. Bratten, general sales manager, Frigidaire Division, General Motors Corporation.

The new line of refrigerators, as in the past, will be available at retail in three types—Master, De Luxe, and Imperial—with a total of nine different models ranging in price from $217.75 to $449.75. Each type refrigerator uses its own distinctive system to provide maximum refrigeration for both fresh and frozen foods. Present outside appearance has been retained, but major changes have been made in interior arrangements and individual features.

This new and improved 1949 Frigidaire DeLuxe refrigerator has 8.6 cubic-foot storage capacity. It provides storage space for as much as 45 pounds of frozen foods.

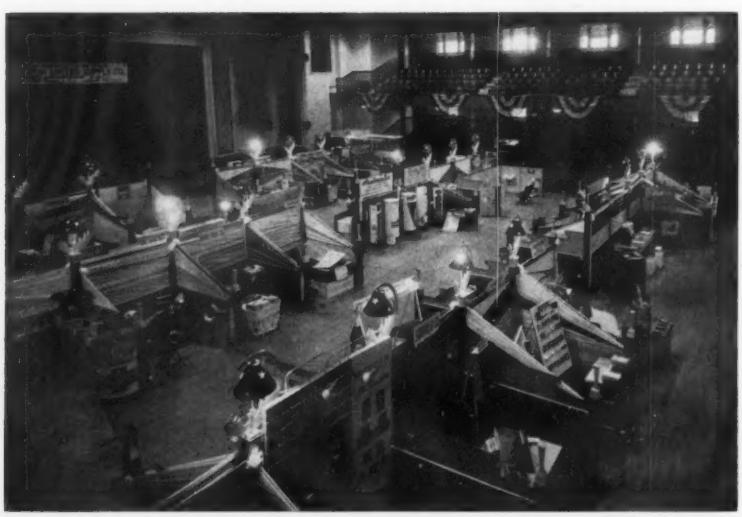
Master models are available in four sizes: ML-60 at $217.75, ML-77 at $239.75, ML-93 at $289.75, and ML-115 at $314.75. The model number indicates the capacity—for example, the ML-77 has 7.7 cubic feet capacity.

From two to five Quickube ice trays are provided depending on the model, freezing from four to twelve pounds of ice cubes. The Super-Freezer is of sufficient size to store a large quantity of frozen food. Sturdy bar type shelves, extra strong to hold extra quantities of foods, are provided on all models, and a plastic insulated inner freezer door, the same as on De Luxe models, has been added. Shelf fronts and freezer door both have a new high luster finish.

De Luxe models are available in three sizes, DL-70 at $299.75, DL-86 at $339.75, and DL-105 at $359.75.

These models have a full-width Super-Freezer Chest which provides storage space for as much as 45 pounds of frozen foods. It is completely separated from the food compartment and has its own high luster finished, insulated spring-hinged door.

Four Quickube ice trays are provided in the two larger models, one double, and three single width. DL-70 has three ice trays, one double and



DEALER DISPLAY—Over 500 representatives of dealers, representing Missouri, Kansas, Oklahoma, and Arkansas, met recently at the Ekstrom Dealers' Display Meeting held in Joplin, Mo. A total of 60 individual factory displays were set up, and over 100 factory representatives attended. During the meeting, announcement was made that Ekstrom United Supply Company had purchased and were the successors to the Joplin branch of the W. B. Young Supply Co.

two single width. A five quart Multi-Purpose tray is also included for storing bulk meats and other foods.

The food storage compartment of the De Luxe models is cooled partly by cold air from the Super-Freezer Chest, and partly by cooling coils down the back and in the bottom beneath the Hydrator. Two "Summer-Winter" controls are provided to regulate humidity.

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WITH CAPITAL stock of 50 shares, no par value, Bozart Radio and Television Corporation has been organized in Miami, Fla. Incorporators were Jean A. Epstein, Evelyn Mappin, Ernestine C. Ebert, and Mary K. Markette.

•

IN THEIR modern, newly remodeled store, the new Fultz Appliance Store has opened on the East Side of the Square in Denton, Texas. The store carries major appliances and a full general line of traffic appliances. In the new location, the store will continue to operate a complete radio and washing machine repair service.

•

CAPITALIZED at $3,000, Kanawha Radio, Furniture, and Appliance Company has been recently organized in Charleston, W. Va. Incorporators are James M. Hunter, Jerry Diveley, and W. E. White, all of Charleston.

•

A NEW RADIO and appliance store has been opened in St. Petersburg, Fla., at 678 2nd Ave., So., by Henry Ewin. The store will handle television and radio sets, refrigerators, ranges, water heaters, and air conditioners. Mr. Ewin was a wartime expert for the Army on radar, television, and electronics.

•

LOCATED on Washington St., in Alexandria, La., the H. H. McCann Appliance Company recently completed displays hailed as the most beautiful, most modern, and most complete ever shown in the Central Louisiana area. This firm is said to be one of the most complete and modern appliance marts in this area.

•

ALL-WEATHER shopping comfort and convenience are accented in the modern store facilities provided by Stripling's new Home Appliance Store and its off-street parking center which was opened recently in Ft. Worth, Texas. The new three-story-and-basement building occupies almost an entire block directly across Main Street from Stripling's main store.

NEW SALES manager of the Appliance Division, Pizitz Department Store, Birmingham, Ala., is Daniel B. McNutt, previously with the Monitor Company of Alabama. Max B. Mazer, formerly appliance buyer, is now in charge of the radio department.

•

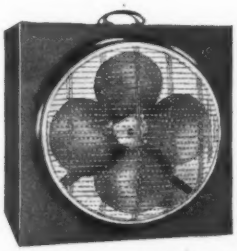
CAPITALIZED at $100,000, Barnes, Inc., has been organized in Fayetteville, N. C., to deal in electrical equipment. Incorporators are D. A. Barnes, L. C. Barnes, and Dewey Barnes, all of Fayetteville.

NEW ZENITH television and radio sales manager for the Radio City Distributing Co., Dallas, Texas, is Trent J. Corcie. John J. Dorie has been named new city district manager.

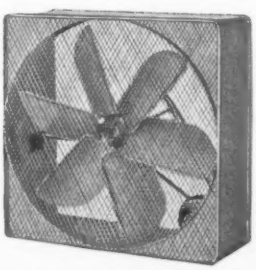
•

RECENTLY established at the Vinyard Appliance Co., Birmingham, Ala., is a complete washer service department. The department services all varieties of washers, and is the only one of its type in the state. In charge is A. N. Vinyard, whose father, F. G. Vinyard, owns the appliance company.

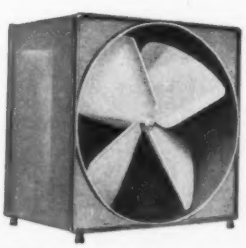
REX AIRATE



W-16 is a Lightweight, Portable Model for all around use. Easy to handle.



W-400 or W-500 Models move 4000 to 5100 C.F.M.



Cool comfort for the entire home! Attic Model capacities from 7050 C.F.M. to 21500 C.F.M.

DOUBLE YOUR SUMMER PROFITS with REX-AIRATE Comfort Cooling Fans!

Here is an enormous market with far more prospects than you can handle! The greatest potential market for summer comfort cooling is in the residential field. Thousands of home owners and apartment dwellers have found that air — nature's cooling method — is the solution for heat relief at low cost.

Any dealer who has successfully sold electrical appliances can merchandise REX-AIRATES. No special training is required, installation and service problems are minor. They are suitable for any home — large and small — the line comprises 15 models from the small W-14 window fans listing at $42.90 to the large volume attic-pak fans.

More and more alert dealers are profiting by selling REX-AIRATES. If you are not obtaining your share of this fast growing business, start doing so now by writing for catalog ES. By all means don't delay.

Air CONTROLS INC.

Div. of

THE CLEVELAND HEATER CO.

2310 Superior Ave. Cleveland 14, Ohio

Silent Salesmen

Lightolier — Fluorescent Fixtures

COMPLETE with eight fluorescent fixtures, each individually controlled, the Lytron Merchandiser, developed by Lightolier, Inc., makers of lamps and lighting fixtures, offers dealers a compact, three-dimensional stage-set display suitable for use in store windows, supply counters or showrooms.

With this sturdy wood-framed Lytron Merchandiser, even dealers who are cramped for space can show a carefully balanced selection of eight choice fluorescents. With a lasting chromium finish and baked enamel reflectors behind the tubes, these sleek Lytrons are ideal for use in kitchen and bath as well as playroom and den, store and office. Included with each display are 100 free envelope enclosures.

Westinghouse — Lamp Display

THE WESTINGHOUSE Lamp Division offers retailers "sale-ability through see-ability" for every product featured in their lamp promotion. Eye-catching window displays are expected to be installed by lamp dealers throughout the country, and will draw customer attention as well as boost sales. Many of the pieces are in full color to co-ordinate the displays with advertising.

Similar material can be ordered through the advertising and sales promotion department of the Westinghouse Lamp Division, Bloomfield, N. J., without cost.

Cory — Replacement Sales

IN ANOTHER bid for important counter identification with the thousands of dealers who stock and sell their products, Cory Corporation, Chicago, have just introduced a new permanent wood Counter Merchandiser for their replacement glass bowls.

According to J. W. Alsdorf, president of Cory Corporation, one of the great problems in the manufacture and sale of glass coffee brewers has always been that of keeping proper replacement bowls easily available to all consumers throughout the United States.

The new Cory replacement bowl Counter Merchandiser answers the problem of the retailer by providing a permanent wood display fixture which holds a balanced assortment of any three upper and any three lower replacement bowls for Cory glass coffee brewers. Finished in an attractive combination of dubonnet, yellow, blue and white, the display gives the dealer adequate display and stock space for his replacement bowls—yet occupies only a little more than one square foot of counter space. The display measures only 17 inches, top to bottom.

The new Cory Counter Merchandiser is available to the dealer free with any order of 18 replacement bowls and can be shipped immediately. Cory territory managers are now contacting their distributors with details on this merchandising deal.

For Cory distributors who desire to obtain replacement parts displays to pack with replacement bowls already in their stock, Cory makes the display available as a separate purchase item at $3.75—the actual manufacturing cost.

Faraday — Plugmaster Display

A NEW 12-unit display carton design to make jobber-dealer stock handling easier is announced by Sperti Faraday, Inc., Adrian, Michigan. The new carton will contain 12 individually boxed Plugmasters with separators between each. Not only

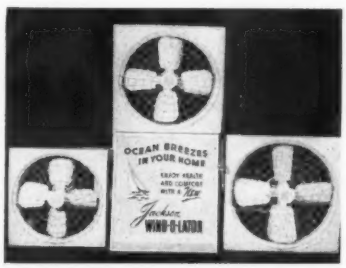
This dealer window display on lamps is typical of the eye-catching possibilities available with Westinghouse promotion materials.

will it give greater shipping protection (master corrugated carton holds six small cartons or 72 Plugmasters) but it will assist in filling orders of dozen, or less than dozen lots, and make inventory a lot easier.

Simply by folding back the carton's top lid, dealers have an attractive counter box, designed to create more attention and sales. With each carton are enclosed several copies of a new consumer folder for point-of-sale distribution to interested customers. Additional quantities of this folder are available.

Jackson — Display Stand

FOR SPRING and summer promotion of Jackson Wind-O-Lators, the Jackson Ventilating Co., Inc., Montgomery 6, Ala., have available an attractive display stand.



Three sizes of the Wind-O-Lator and an eye-catching promotional placard compose the display. List price of the display stand and three Jackson Wind-O-Lators is $288.90.

MIXER SALES BUILDER — This new 4-color 14 x 22 inch counter and window display unit is now building Hamilton Beach food mixer sales for dealers. It spotlights two exclusive Hamilton Beach features—Mixguide and Bowl Control.

Product Parade

Four-Slice Toaster

NOW AVAILABLE through authorized Toastswell distributors is the four-slice Toastswell Toaster, Model No. 444-A, manufactured by the Toastswell Co., 620 Tower Grove Ave., St. Louis 10, Mo.

The 4-slice pop-up type Toastswell has a silent clock and thermostat control. Double silver contacts can be used on either a.c. or d.c.

No pre-heating is required, and the bread moves during the toasting period, assuring uniform toast. Wavy guard wires help eliminate white streaks.

Current consumption is low, and the current is automatically cut off. No lubrication is required and all parts can be serviced instantly. The complete clock and switch mechanism drop through the bottom.

The 4-slice Toastswell is 7 inches high, 6¼ inches wide, and 15¼ inches long, operates on 110-125 volts, 1200 watts, and weighs 7½ pounds.

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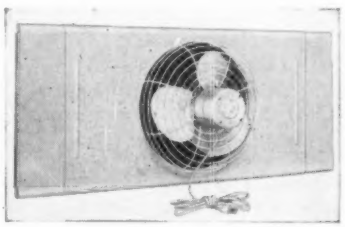
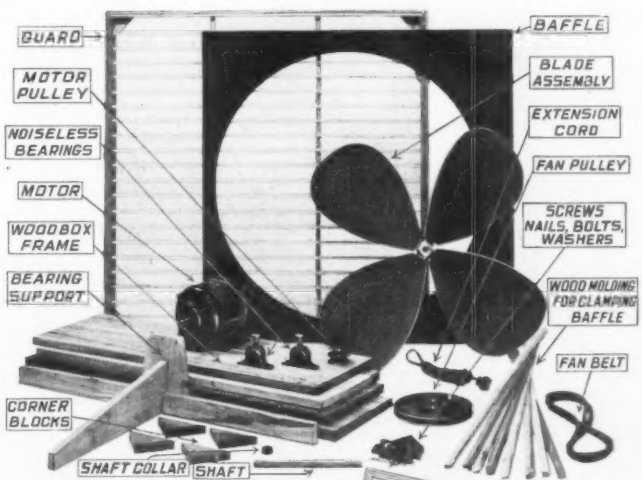
Window Fans

FOUR SIZES in the Fresh-Air Maker window fans—10-inch, 12-inch, 16-



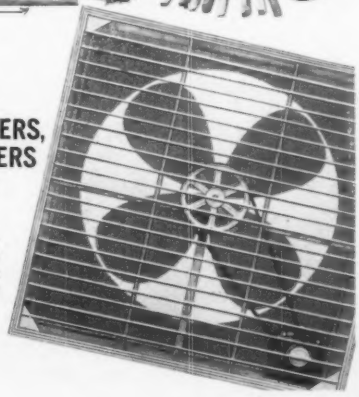
inch, and 20-inch—have been announced by the Ventilating Division of the Schwitzer-Cummins Co., 1145 E. 22nd St., Indianapolis 7, Ind.



BIG MONEY FOR DEALERS, JOBBERS

With the Fastest Selling Fan Yet!

Completely packaged, everything that's needed, quality parts—at a very low price. Everybody's looking for low prices—your customers will snap 'em up. Fast seling—quick turnover—good profit!



WRITE FOR INFORMATION

S. J. STEWART [ELECTRIC]

527 St. Joseph St. New Orleans 12, La.

The 10-inch and 12-inch models are liberally sized for the comfortable ventilation of the average bedroom. The largest, or 20-inch size, will ventilate and cool today's small homes which so often have no provision for installing these facilities except in the windows.

The larger Fresh-Air Makers are 3-speed fans so that an immediate selection of the air movement wanted is available—lots of it at top speed for the big job that must be done quickly and quietly, or a generous volume at low speed when the fan must be silent.

There is a size for all window ventilating jobs and all are convenient and quick to install. Color is a harmonizing ivory.

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Refrigerators

AN INNOVATION in domestic refrigerators, the new Orley Nine Hundred Series, has been announced by Orley Brothers Co., Inc., Detroit.

The new series features Super, Deluxe, and Custom models that offer 9 cubic-foot, fully refrigerated capacity plus an exclusive ¾ cubic-foot pre-cooled storage chamber, all accessible with a single head-to-toe door.

The Orley Nine Hundred is 60½ x 29¾ inches wide x 24⅛ inches deep, providing nearly 15 square feet of shelf area. The roomy, U-type aluminum evaporator has a 30-pound frozen food capacity. The generous sized porcelain enamel meat tray may be used as a defroster pan. Newly styled ice cube trays are also featured.

Condensing unit is ⅛ h.p., hermetically sealed in a lifetime bath of oil, specially mounted for quiet, vibrationless operation.

The exterior is finished in baked-on Dulux enamel on bonderized base. It is fadeless, stain-, grease-, and chip-resistant. The triple-plated chromium handle assembly features self-latching "Kwiklok" mechanism for finger-tip control.

•

Air Circulator

RECENTLY introduced is the new Deluxe Flow-Air Circulator, manufactured by Modern Utilities Co., 3733 La Salle St., St. Louis 10, Mo.

The Flow-Air, which utilizes a new patented "floating air" principle to provide complete roomwide circulation of the cool floor level air, is of all-steel construction. It is finished in a choice of rich mahogany or satin-grey, has a 1/30 horsepower motor, 12-inch vairified air impeller, three speeds, and is 16 inches high and 13 inches in diameter.

The Flow-Air is listed by Underwriters' Laboratories, and is guaranteed by the manufacturer. The Flow-Air is now in production and available for immediate delivery.

•

Electric Ranges

TWO NEW Gibson electric range models, designated as Model A and Model C, are now being offered to trade, by Gibson Refrigerator Company, Greenville, Mich.

The new Gibson Model ER-199-A, with a retail list of $179.95, has a full-width, 40-inch table-top cooking surface with over 3 square feet of work space. The surface units provide 7 "measured heats" for every surface cooking need. A 6-quart deep-well cooker economically steams food, cooks soups and complete meals.

Of special interest to homemakers is the patented Gibson concealed oven vent which carries vapor from the oven to the right rear surface unit where it is dissipated.

Both new Gibson models, the ER-199-A and the ER-199-C, have a high speed banquet-size oven, 16 inches x 16 inches x 20 inches, which cooks complete oven meals for 12 people and offers speedy preheat, plus the advantage of a waist-high smokeless broiler with a sanitary oven tray at the bottom to catch spill overs.

•

Television Receivers

A NEW LINE of low-priced television receivers, using a simplified circuit design necessitating only 17 tubes and three rectifiers in addition to the 10-inch picture tube, is being produced by the General Electric Company at Electronics Park, in Syracuse, N. Y.

Three table models and one console will comprise this new line. Lowest priced will be a molded-plastic cabinet table receiver, Model 805, (shown here) which will have a list price in the East of $239.95. The remaining table sets, Model 806 in mahogany and Model 807 in native American oak, will have list prices of $279.95 and $289.95 respectively. Model 809, a compact contemporary console finished in mahogany, will list for $329.95. (All prices are Eastern.)

With the exception of Model 805, all sets in the line will have "Daylight" television tubes which produce pictures 80 per cent brighter than conventional tubes operating under the same conditions.

The low prices of the new General Electric receivers were made possible by the simplified circuit design developed by engineers in the electronics laboratories at Electronics Park. The new design makes possible greater sensitivity with fewer tubes. Field tests have proved this new design to be highly effective in producing sharp pictures in the difficult fringe areas, according to the manufacturer.

All the new receivers are pre-tuned to the 12 television broadcast channels so that the operator may select the desired program merely by a switch of a knob. They are equipped with the G-E automatic clarifier, a stabilization circuit which gives the pictures clarity and sharpness because it materially reduces the effects of interference sometimes caused by passing automobiles or by unfiltered electrical appliances.

•

Window Fan

LISTING at $59.50, a new low cost, high volume, window fan for "summer comfort cooling" of small homes and medium size apartments has been announced by Viking Air Condition-

ing Corp., 5600 Walworth Ave., Cleveland 2, Ohio.

Completely encased in a cabinet, this 22-inch fan is rated at 3100 cfm by the NAFM method (NEMA rating 4500 cfm). It is powered by a 1/6 h.p., 110 volt, 60 cycle resilient mounted motor and uses a V-belt drive which assures quiet operation.

The over-all dimensions of the fan are 28 inches wide x 24 inches high x 10 inches deep. It will fit any window with inside dimensions between 24 inches and 45 inches. Adjustable spacers are available for the wider windows.

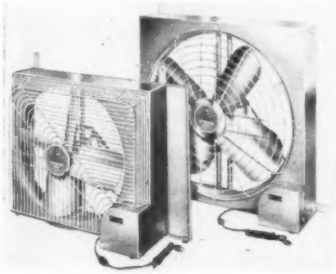
Complete instructions and necessary fittings are included with each fan. Installation can be made by home owners in 12 minutes.

A built-in automatic electric timer which turns the fan off automatically at any desired hour is available. For additional information, discounts, and literature, write the manufacturer.

•

Window Fan

THE NEW Lau "Niteair" window fan, manufactured by The Lau Blower Co., Dayton 7, Ohio, was designed to draw in fresh night air and expel hot stuffy air.



Fitted to any window in a few minutes, the 24-inch fan moves 3783 c.f.m., and the 30-inch fan moves 5745 c.f.m. Ease of operation is insured by an on-off switch fitted in the cord.

The fan was designed specifically for medium sized homes, apartments, and offices, and is easily portable.

The 24-inch fan is 31 inches long, 26½ inches high, and 6 inches deep.

Full information on Lau "Niteair" window fans, and other Lau fans and blowers, may be obtained from the manufacturer.

•

Air Circulator

DEVELOPMENT of an improved air circulator has been announced by The Baldor Electric Co., 4351-67 Duncan Ave., St. Louis, Mo.

This unit is available in floor column type, counter column type, or ceiling suspension type. Each type consists of a 24-inch fan blade powered with a ¼ h.p., 2 speed motor, 1100/800 r.p.m.

The unit is resilient mounted to minimize noise and is equipped with sealed-for-life type ball bearings to minimize maintenance.

For further information, write the manufacturer for bulletin No. 334A.

Air Cooler

IT HAS been announced by the Air-Cooling Engineering Company of P. O. Box 41, Morton Grove, Ill., that they are going into immediate production on their new "Polar Breez" air cooler.

This unique evaporative cooling unit supplies 100 per cent fresh outside air to the room, cools the air ten to fifteen degrees below outside temperature, then filters and double washes the air free from dust or pollen.

The new moderately priced units will provide both temperature and humidity control. They will have a range from 1850 cfm to 25,000 cfm and will be equipped with new glass fibre filter cooling pads which do not need servicing or replacement. Units are complete with weather-proof metal housing, multi-blade pressure type blower, "V" Belt Drives and directional flow grille which controls air flow in both vertical and horizontal planes. Each unit has a standard motor and a complete "Roto-Atomizer" (pat. appl. for) which will speed up the cooling and washing action of the air.

Southeastern Representative & Warehouse
W. BERRY & CO.
88 PRIOR STREET, N.W., ATLANTA 3, GA.
FRIGID
PEDESTAL FANS.
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3. CIRCO AUTOMATIC SHUTTER FANS. Rigid Steel Frames with welded joints. Weather-Proof Protection. Felt, cushioned, no flutter, aluminum louvres for silent instant operation. Center tie-rod construction. Copper coated, rust resistant, steel axles mounted on bronze bearings.
4. ATTIC FANS. Undoubtedly the finest belt-driven fan on the market today! Balanced propellers . . . Randall Pillow blocks, Pulleys and V Belt Drive. Welded structural steel frames constructed to mount in penthouse or window.
5. ADJUSTABLE WINDOW VENTILATORS. Extends 26" to 36" and of all steel construction, with 10" Aluminum Quiet Propellers. Heavy duty motor 110 V. 60 Cycle. Supplied with approved cord, plug and pull chain switch.
6. EXHAUST FANS. Do a thorough job of removing smoke, steam, and foul air and strong odors quickly and quietly. Heavy duty, long service G.E. motors.
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AIR CIRCULATOR

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Sells for offices

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FASCO
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Heavy Duty

12" Model N-121
Standard

10" Model N-101
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DeLuxe Heavy Duty

10" Model N-103
Standard

16" Pedestal Model N-165. Adjustable in height—4 to 7 ft.

WRITE! Get complete information now so you can order from your jobber promptly.

FASCO
INDUSTRIES, INC.

Formerly F. A. Smith Manufacturing Co., Inc.
ROCHESTER 2, N. Y.

Names and Faces

Important changes in the sales organization of **Norge division of Borg-Warner Corp.,** Detroit, have been announced by **H. L. Clary,** director of sales.

In furthering Norge's plan to build one of the strongest organizations in the appliance industry, Mr. Clary announced the creation of two new key executive positions; appointment of a new refrigerator sales manager; addition of several product specialists to the sales staff; expansion of the number of regional territories; and realignment of the sales promotion department.

Coincident with this announcement, Mr. Clary also reported the resignation of **W. S. Law,** general sales manager. Mr. Law left Norge to assume an important position with a Norge distributor, and will announce his new connection in the near future.

With Mr. Law's departure, Mr. Clary announced elimination of the position of general sales manager. At the same time two new executive posts are being created. **J. R .Cameron,** presently serving as assistant to **Harry L. Spencer,** director of manufacturing, has been named merchandise manager. Mr. Cameron will supervise and co-ordinate the over-all product program for the sales department.

R. C. Connell, who joined Norge recently as gas range sales manager, has been named field manager. In this position he will supervise and coordinate operations in the field and will be responsbile for the activities of the six regional managers and 18 district representatives. The position of gas range sales manager remains open.

Mr. Clary also announced the appointment of **Dean Spencer,** long associated with Norge, to the important post of refrigeration sales manager. In this new post, Mr. Spencer, who has been southern district manager, will have charge of the sales of domestic refrigerators, home freezers, and refrigeration specialties. Mr. Spencer will be assisted by **Frank H. Toler,** former district representative, and more recently in the sales promotion department, who will be supervisor of water cooler sales.

Changes are also announced in the field organizations. There are now six sales regions instead of five. **C. H. Alden,** who has been in charge of the midwest region, has become manager of the newly-created southeast region. He will have headquarters in Atlanta. The vital midwest territory centering around Chicago remains open for the present. **James H. Baine,** former Norge district representative, has rejoined Norge. He will have charge of the newly-formed south central region with headquarters in Memphis.

Dean Spencer

•

Appointment of **Edwin J. Sherwood** as television promotional manager of **Admiral Corporation** has been announced by **Seymour Mintz,** director of advertising.

Mr. Sherwood's principal duty will be to conduct, in co-operation with Admiral regional sales managers, television sales training programs for distributors in the present 35 television markets as well as for those distributors in markets where television is just around the corner.

Mr. Sherwood has previously been associated with Paramount Motion Pictures, and for a year was a television director of the Cruttenden and Eger Agency in Chicago, handling the Admiral account.

•

Appointment of Gene Miller, of Muskegon, Mich., to the Sales Promotion Department, is announced by **Gregory V. Drumm,** manager of Advertising and Sales Promotion for the **Gibson Refrigerator Co.,** Greenville, Mich.

Mr. Miller, a graduate of Michigan State College, has been employed by the Muskegon Construction Co.,

separate subsidiary of the Owen Ames, Kimball Construction Company of Grand Rapids, Mich. Previous to that Mr. Miller worked with Norge, and with Campbell, Wyant, and Cannon, both of Muskegon Heights, Mich.

•

Herschel L. Johnson has been appointed **Coolerator** district manager for the Southeast, according to **William C. Conley, Jr.**, Coolerator sales manager.

Prior to this appointment, Mr. Johnson was Coolerator electric range specialist for the South. He was formerly associated with Hotpoint, Inc.,

Herschel L. Johnson

for 11 years, as a field representative throughout the Southeast.

In his new position, Mr. Johnson will supervise the sale of Coolerator refrigerators, electric ranges, and family-size home freezers in Georgia, Florida, North Carolina, and South Carolina.

•

Joseph W. Doan, appliance sales manager for **Frigidaire's** Pacific Region, has been appointed manager of Frigidaire's quantity sales division with headquarters in Dayton, according to an announcement made recently by **H. M. Kelley**, appliance sales manager. Mr. Doan succeeds **C. H. Glenny**, who has resigned.

Mr. Doan first became associated with Frigidaire in 1928 when he served as sales promotion manager of the factory branch in Seattle. Later he joined the Los Angeles branch and served as division manager, apartment house and quantity sales manager, and then sales promotion manager, and in 1948 was made appliance sales manager of the Frigidaire Pacific Region.

For a time he operated his own Frigidaire dealership and was also appliance section manager for the Broadway Stores chain.

ELECTRICAL SOUTH

VOL. 23 NO. 6

JUNE 1949

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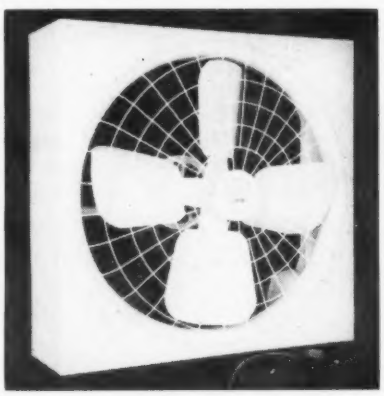

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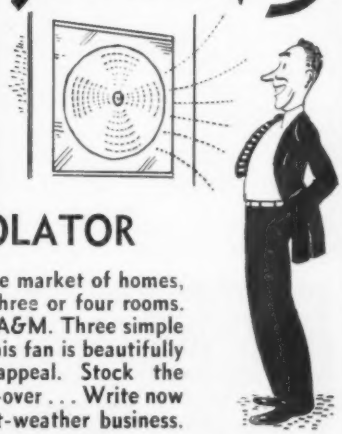

JACKSON WINDOLATOR

Here's just the fan to reach the huge market of homes, apartments offices and stores. Cools three or four rooms. Has high efficiency rating from Texas A&M. Three simple operations is all necessary to install. This fan is beautifully finished and has a strong sales appeal. Stock the Windolator and be assured of fast turn-over . . . Write now for details. Get your share of big, hot-weather business.

Jackson VENTILATING CO., INC.
MONTGOMERY, ALABAMA

Southwestern *Factory Representative* John T. Everetts Sons Memphis, Tenn.

Manufacturers of JACKSON GIRO, horizontal attic fan—a package unit and JACKSON HI-VOLUME, vertical attic fan *Distributors inquiries invited*

Southeastern *Factory Representative* Alex Corbett, Jr., & Assoc. 2727 49th. St. So. St. Petersburg 7, Fla.

Colonial Electric Products, Inc., of East Patterson, N. J., has appointed three regional factory representatives, according to **Charles L. Sabatini**, president. They are **James B. Stuart**, Dallas, Texas; **Douglas H. Brown**, Detroit, Mich.; and **M. Morin Rivera**, New Orleans, La.

•

Ellis L. Redden has been appointed director of advertising and sales promotion for **Motorola, Inc.**, Chicago, it was announced recently by **W. H. Stellner**, vice-president.

Mr. Redden comes to Motorola from the Crosley Division of the Avco Manufacturing Corp., Cincinnati, where he had also been director of advertising and sales promotion for appliances, radio, and television. Previously he had been with Norge Division of Borg-Warner as sales promotion manager and prior to this he was associated with McCann-Erickson.

•

The appointment of **Robert H. Gordon**, of Philadelphia, Pa., as assistant manager of the Service Department of the **Westinghouse Electric Appliance Division**, Mansfield, Ohio, has been announced by **L. K. Baxter**, department manager.

Mr. Gordon has been with the company's service department since 1930 and succeeds **J. J. Anderson**, who was recently named merchandise manager of household refrigeration for the division.

A native of Norristown, Pa., Mr. Gordon has served with Westinghouse as field service supervisor in New York City, Chicago, San Francisco, and in Philadelphia, where he was service supervisor for the Middle Atlantic sales office of the division prior to his appointment.

•

New manager and buyer of the major appliance department of **Maison Blanche Co.**, New Orleans, is **Stanley P. Reinherz**. Mr. Reinherz, who came to New Orleans from Chicago, succeeds **John Eberhardt**, who resigned.

•

Wayland C. Winslow recently joined **H. A. Daugherty & Company**, of Orlando, Fla., as sales manager of the Domestic Appliance Division.

E. H. Vick, a member of H. A. Daugherty & Company since his separation from the armed services, has been promoted to sales manager of the Air Conditioning Division.

ED. C. LEVERENZ, Owner, Leverenz Electric Co., Danville, Illinois, has joined the thousands of contractors throughout the country who are installing Herman Nelson Propeller Fans. Like others, Mr. Leverenz has found that it's profitable to sell these outstanding products to provide comfort and health in the huge industrial, commercial and institutional markets. He has also found that installing Herman Nelson Propeller Fans results in satisfied customers who help bring his firm more business. If you are interested in this profitable market, write for booklet, "1001 Ventilating Problems Solved."

Herman Nelson Propeller Fans

THE HERMAN NELSON CORPORATION
MOLINE, ILLINOIS

Potent Sales Closer for Washers

(Continued from page 67)

buy later. Store sales also show that the invited guests account for the sales volume in a lot of other merchandise the store sells and that they are important builders of good will for the store.

Using the party idea, Jefferson Electric Company has sold 49 automatic washers in 30 days.

Jefferson Electric Company, wiring contractors and electric motor rebuilders, entered the appliance field about two years ago, with a modern full-view front store down town. Prior to that its appliance sales represented the smallest part of the business.

But long before there was merchandise to sell and when everything sold before it arrived, Mr. Jones was training and selecting a crew of salesmen for competitive selling and preparing for the new store.

For instance, he pointed out, to achieve volume the selling facilities and plant must have the potential capacity to handle a big volume.

Mr. Jones divided his sales territory into seven divisions. Each of seven full-time salesmen have a division. All sales in each division are credited to the salesman who has charge of that area whether he makes the sale or whether the customer comes into the store—however it is made, it belongs to that salesman. Out of seven Jones store salesmen, four have college degrees. Earnings are $400 to $600 monthly.

Under this arrangement on the washer party idea, each salesman can have a washer party in his division every week if he can arrange it.

One salesman of the seven is assigned to the floor each day and all the sales he makes are distributed by the territory division plan.

One of the features of the washer party that makes it such a success, according to Mr. Jones, is that those who are guests at such a party are friends of the hostess, who has just bought a washer. She invites people who are in her own circle of social activities and it gives an acceptable method of showing her friends her new automatic washer without placing her in the position of bragging about it.

It gives the salesman, as representative of the store, an opportunity to compliment the hostess on her judgment in buying the washer. Most of the ten guests are prospects for a washer first, because they want a washer, and second, because they want to keep up with the hostess.

"We have often had a guest buy and specify delivery of the demonstration washer at the party," Mr. Jones said. "Naturally we are glad to deliver it to a home instead of bringing it back to the store."

"We have found, too," Mr. Jones said, "that the owners of the most expensive and elaborate homes are prospects for automatic washers and we have given parties in such homes. This is possible because the hostess invites her friends and there are no mixed crowds and no strangers."

From the standpoint of the salesman who holds a party in his sales territory, for example he will make

four sales. These four new owners are approached and invited to become hostesses at a party and so the idea keeps feeding an unlimited number of new prospects. Such prospects as live in some other salesman's territory are immediately taken over by that salesman. Similarly the salesman who loses a couple of prospects to another territory also receives prospects from other salesmen so it evens up in the long run.

There are of course objections raised to being hostess at such a party, Mr. Jones points out, and not everyone will co-operate, although most of them do.

When objections are raised, the salesman can usually point out the many nice features of the home, and this presents an opportunity for the owner to have a party which will be enjoyed by ten of her friends and at the same time get favors and prizes for them without cost to herself. The salesman also often remarks that if he had such a beautiful home he would certainly enjoy an opportunity to show it off.

There can be no objections raised in regard to the guests who will attend because the hostess selects the names from her own list of friends.

Sales Building Incentive Program

(Continued from page 65)

although a complete markdown is, of course, taken on all such trade-ins, much good will has ensued.

"We are accepting all of the trade-ins offered us, Mr. Feinberg said, "all of which are thoroughly reconditioned, repainted, and resold through the store. Due to high repainting costs, labor costs, etc., we are showing only a small profit, or breaking even—however, this is keeping the new appliance market clear, and we have been well satisfied with results to date."

Light It to Sell It

(Continued from page 64)

And what does all this get him? Well, here is an instance in point: recently a man and his wife attracted by Burkholder's brightly-lighted store, which is on one of the city's main traffic arteries, stopped in. Conversation soon developed the fact that these people were on their way to a neighboring "laundrymat" with the family washing. Seizing this opportunity to demonstrate his automatic washer, Burkholder offered to do the washing while his visitors waited—assured them that he could do it with no loss of time to them.

He did the washing—largely household linen—dried it in the tumbler he has next to the washer, and ironed the flat pieces on his ironer installed next to his tumbler. So impressed were Burkholder's "prospects" with the washer's performance that they signed up for a similar machine before they left the store. These were strangers to Burkholder and his salesmen. He had no listing on them. They were attracted to the store, in the first place, by its high-efficiency illumination. They became customers because of Burkholder's ability —and readiness—to give them immediate proof that they should own the machine demonstrated.

Since Burkholder had been operating on his own account, at the time of writing, for only six weeks, it is too early to prove by quoted dollar volume that his methods are right for him or for some other appliance dealer. However, by the sales he has made to date and the reaction of the potential customers he has contacted, he is convinced that he is on the right road to future highly satisfactory volume.

All-Round Program On Electric Kitchens

(Continued from page 61)

ances are connected and in operation. Dishwasher, disposal unit, hot water heater, range, automatic washer, and dryer all work.

"When the customer sees our department in complete action," says Mr. Herbert, "and then perhaps visits some other dealer who does not have active demonstrators, the comparison is well in our favor. Any appliance here can be hooked up for demonstration, and we never hesitate to give individual demonstrations."

The electric dishwasher is shown in at least two demonstration points in the store—in the electric kitchen, and in its own spot. One dishwasher with glass doors and lights inside to show the action is kept on the floor when it is not at some outside point of demonstration, such as a cooking school. Three cooking schools were held last year, sponsored by the M. M. Cohn Company.

"The electric dishwasher is the heart of the modern all-electric kitchen," said Mr. Herbert. "We find that no other appliance offers as many opportunities for selling the customer

THE ONLY CEILING VENTILATOR WITH 9 SPEEDS FORWARD

This exclusive feature will help you make more profit by selling Model 210 Blo-Fan electric ceiling ventilators. The nine position control switch allows the housewife to operate her Blo-Fan at the optimum speed required by the degree of air pollution. Hit the Jack Pot with 9 Speeds Forward.

SPOT VENTILATION AT THE POINT OF AIR POLLUTION. IN THE KITCHEN, BATHROOM, DEN OR LAUNDRY.

PRYNE & CO., INC. POMONA, CALIFORNIA • LOS ANGELES SAN FRANCISCO • CHICAGO • NEW YORK

WORK in Comfort
WITH
CHELSEA FANS
Comfort Cool Your Plant—Remove Excessive Heat, Fumes, Steam and Vapors
IND—Exhaust Fan for moving large volumes of air. Five blade, belt drive. Sizes 24 to 60 inches.
PH—Roof Ventilator—A complete, weather-tight unit. Nothing more to buy—easy to install. Belt drive. Sizes 24 to 60 inches.
BB — All-Purpose Fan for continuous operation in moving large volumes of air. Direct drive. Sizes 12 to 30 inches.
AA — Utility Fan for equalizing heat or cold. Direct drive. Guard—front and back. Sizes 20 to 24 inches.
DXB—Booster Fan for installation into duct line for removing fumes and heat. Belt drive. Sizes 16 to 36 inches.
DUB — Heavy Duty General Exhauster. Screened. Portable, for over all shop use. Sizes 18 to 30 inches.
Explosion proof motors with non-sparking blades available for all popular sizes. Write Dept E-2 for industrial bulletin No. 864 describing fan applications, fan uses and other pertinent information, and for catalog on Industrial Fans. Charter member of the PROPELLER FAN MANUFACTURERS' ASSOCIATION.
CHELSEA FAN & BLOWER CO., INC.
1206 GROVE STREET, IRVINGTON, NEW JERSEY
CHELSEA

NEW Wheelock CODE CALL
FOR INSTANT COMMUNICATION
Just Press a Button
Code call is made by a numerical code, sounding signals.
Promptly completes telephone connections with organization personnel away from their own telephones.
Eliminates time waste of telephone operator and other employees in "man-finding."
Enables employees without telephones to answer nearest telephone.
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154 WEST 14th ST. - NEW YORK 11, N. Y.

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a complete kitchen. We dealers used to swing our sales efforts around the electric range, but I find the dishwasher the Number 1 modern appliance that makes the housewife want a complete kitchen.

"When we sell the dishwasher as a single unit, I always record the customer as a first-class prospect for the complete kitchen. The typical customer who builds her all-electric kitchen unit by unit usually buys the electric sink, with two base cabinets and two wall cabinets. I make the kitchen plan for the complete layout, and even plan the ultimate color scheme.

"I don't leave future sales to the customer's order. Our sales people keep in touch with her, and our records show when the first units are nearly paid for. Just before her dishwasher is paid out, we again contact her for more units to complete her dream kitchen."

Last year Mr. Herbert and his six sales people sold 80 dishwashers.

The glass-doored dishwasher at the cooking schools always attracts a great deal of attention. There are many dishes to be washed, dishes that have actually been used in cooking and serving foods. The 600 women who usually attend the school have ample opportunity to observe how the dishwasher saves unpleasant labor.

When a dishwasher or other major appliance requiring some manual usage is sold to a customer who has not received an ample demonstration at the store, the dealer's own home demonstrator, Mrs. Jeanne Counts, demonstrates in the home. She also makes call-backs to be sure that the customer operates the equipment correctly.

Promoting all-electric kitchens has assisted greatly in selling electric ranges and water heaters in a natural gas district where installation charges for ranges are extraordinarily high. Mr. Herbert teaches his customers that money saved on cleaning walls and replacing curtains more than offsets high installation charges of electrical heating equipment.

Behind this well-managed appliance department is a service department most unusual for a department store. The repair shop is in the Cohn warehouse, where one-third of the 20,000 square feet is devoted to the appliance department. Repair service on everything sold from the department is given, including radio and television.

The appliance department has a direct telephone line through the switchboard that connects with the service shop, which helps to make immediate service possible.

Another efficiency feature that sets the department ahead of many competitors is the special department truck that makes deliveries promptly.

In order to maintain its atmosphere of exclusive quality, this appliance department does not deal in trade-ins. Many customers are induced to keep their old refrigerators and use them as auxiliary storage cold chests on the back porch, to hold foods bought in bulk, such as a bushel of apples or tomatoes, or a hog to be dry-cured while held in a safe temperature.

The customer who buys a complete kitchen is often in the upper income bracket, and trading in old equipment is not important to her.

"Promoting complete kitchens," said Mr. Herbert, "attracts the very customers that our store likes to have —people with good incomes. Yet our plan of selling and promoting many kitchens, unit by unit does not deprive us of the extra volume to be had from customers of moderate means."

CTI PROPERLY TRAINED MEN
HAVE THE "KNOW HOW"

PRACTICAL SHOP TRAINING
in
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Service, Maintenance, Installation

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AND DEPENDABLE REPEAT BUSINESS

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Designed especially for industrial use, time tested and job tried—Nalco Infra-red Lamps with their long lasting carbon filament and sealed, reinforced base give installations that are enduring and dependable. This in turn assures the dealer that he can depend on a steady stream of reorders from satisfied users. Stock NALCO Infra-Red Dritherm Lamps for more industrial business.

Southeastern Representative Carl Henry, 170 Ellis St., N.E. Atlanta, Ga.

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NORTH AMERICAN *Electric Lamp Co.*
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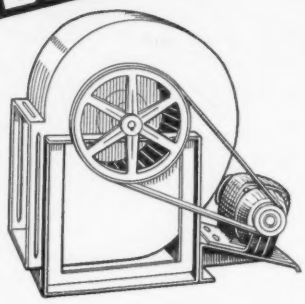
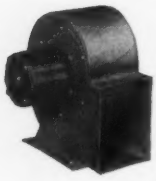


Announcing . . .



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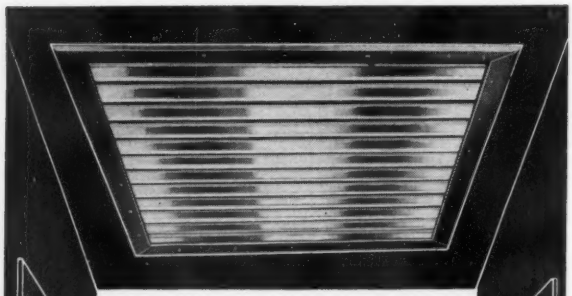

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AUTOMATIC
CEILING SHUTTER
FOR ATTIC FAN

Built so they can be installed practically flush with the ceiling, AIRFLO Ceiling Shutters present a refined, finished appearance. Their natural aluminum color blends with any decoration, eliminating need for painting, and no grille or winter cover is required. Furnished in 5 different widths, single panel up to 73" long. No operating mechanism shows. Built-in fusible link. Meets fire underwriters requirements.

WRITE FOR NEW CATALOG 43-B
Illustrations and details of the complete AIR-FLO line.

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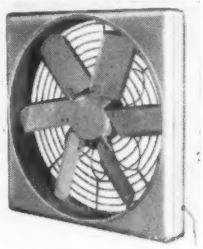

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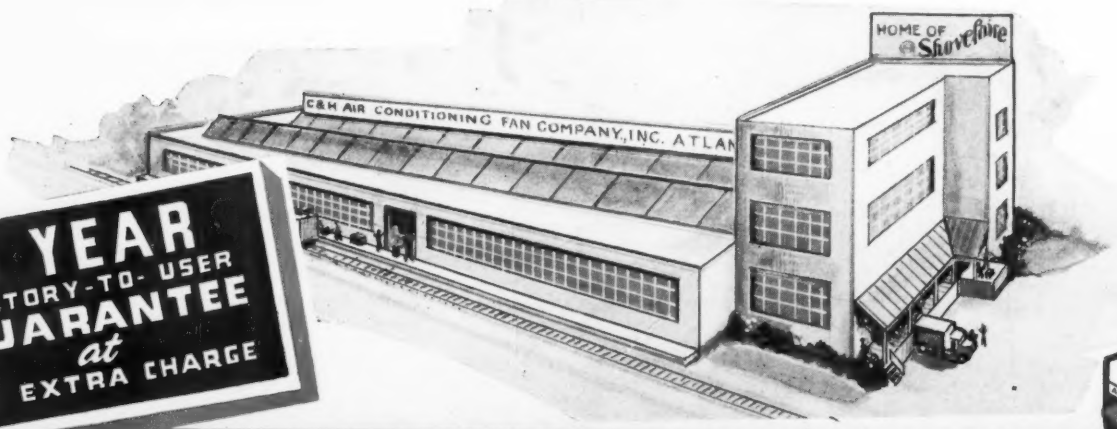

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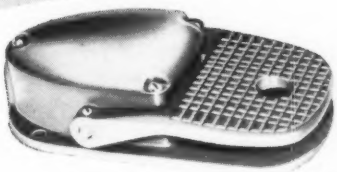
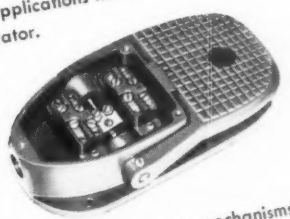


Type AW Foot Switch without guard—for applications not involving hazard to operator.



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TYPE AW

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Double pole, double throw	AW 3	AW 4
Two stage, each stage single pole double throw	AW 5	AW 6

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